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THE CHARAKA CLUB





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AESCULAPIUS
FROM THE BUST IN THE BRITISH MUSEUM

THE PROCEEDINGS
OF
THE CHARAKA CLUB

VOLUME III

POST MULTA VIRTUS OPERA LAXARE SOLET

NEW YORK
WILLIAM WOOD AND COMPANY
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NO. 336.

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Introductory

The Proceedings of the Charaka Club appear to have interested medical men and the editors feel justified in issuing a third volume. The Society itself has added to its membership and increased its activities. The result is that the present issue is larger than those which preceded it, although some valuable papers read before the Club have been published elsewhere. Still other contributions, we may add, have not been published at all, because modesty exists as well as merit among the Children of the Sage.

The list of names of the contributors to this and previous volumes shows that active professional life does not make impossible a dalliance with the Muses.

"Inter sylvas Academi quaerere verum." To seek after truth in the groves of Academus is an occupation which in some degree and form all may profitably pursue.

<i>Editorial Committee</i>	{	WARD A. HOLDEN,
		SMITH ELY JELLIFFE,
		CHARLES L. DANA.

Record of Papers Read and Subjects Discussed at the Meetings of the Charaka Club since the Publication of Vol. II

1.	"Mundinus."	L. S. P.
2.	"The First Trepanner."	B. S.
3.	"Duchenne de Boulogne."	J. C.
4.	"The Epilepsy of Flaubert."	P. B.
5.	"Cesalpino, a Forgotten Worthy."	J. C.
6.	"Ibsen, the Apostle of the Neuropath."	S. E. J.
7.	"Garth's Dispensary."	H. C.
8.	"Portraits of Vesalius."	H. C.
9.	"Epicurus and His Philosophy."	G. L. W.
10.	"De Vigo, Surgeon to the Pope."	L. S. P.
11.	"The Diacre de Paris."	J. C.
12.	"Poems."	F. P.
13.	"Imaginary Libraries."	W. O.
14.	"The Surgery of Henry de Mondeville."	A. G. G.
15.	"The Flutter of the Goldleaf."	F. P.
16.	"Libraries of France and Italy."	W. O.
17.	"Vieussens, 17th Century Anatomist and Physician."	B. S.
18.	"The Terrapin and the Box Turtle."	S. W. M.
19.	"Benjamin Rush."	C. N. B. C.
20.	"History by the Mnemonic Method."	G. L. W.
21.	"Franciscus Sylvius."	S. E. J.

Articles Printed in Volumes I, II, III of the
Charaka Club

*“ Yet let that passen,” quode our hoste, “ as now,
Sire Doctour of Physike, I praye you,
Tel us a tale of some honest matere.”
“ It schal be don, if that ye wol it here,”
Said this doctour, and his tale anon began.
“ Now, good men,” quod he, “ herkeneth everichon.”*

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IN THE SHADE OF YGDRASIL, ...	Dr. PETERSON
THE HIPPOCRATIC DOCTRINE OF INJURIES TO THE CRANIUM, ...	Dr. GERSTER
THE STORY OF THE MAN WHO WANTED TO HYPNO- TIZE BUT NOT TO PAY, ...	Dr. COLLINS
THE CULT OF AESCULAPIUS, HIS STATUES AND HIS TEMPLES, ...	Dr. DANA
A CONTRIBUTION TO ETHICS, ...	Dr. COLLINS
THE EVIL SPOKEN OF PHYSICIANS, ...	Dr. DANA
THE OPHTHALMOLOGY OF THE ANCIENT GREEKS, .	Dr. HOLDEN

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THE KING'S TOUCH FOR SCROFULA, ...	Dr. BILLINGS

THE MEDICINE OF HORACE, ...	Dr. DANA
A SONG OF THE LATTER DAY, ...	Dr. PETERSON
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A Very Rare Book

S. WEIR MITCHELL, M.D.

Dr. S. Weir Mitchell, on being asked to make some contribution to the present volume of the Proceedings of the Charaka Club, sent to one of the editors the letter which follows, accompanying it with a volume entitled "Selections from the Poems of S. Weir Mitchell, M.D., LL.D., Edinburgh." The volume contains forty-nine of the author's poems, and they are selections from eight thin volumes of verse, published in the United States between the years 1886 and 1893. Dr. Mitchell indicated in the Table of Contents eleven of these poems which were favorites with him and which he thought were of special merit. Besides printing, therefore, the letter, which tells the story of this book of verse, we have added several of the poems which he has marked.—EDS.

Dr. Mitchell writes :—

"Many years ago some friends induced me to print a selection of poems in England. I paid for this myself with the result of the product of the book I send you. I have to send you a marked copy because there are scarcely any others left. You will not value it less for being critically marked by me. How much trouble the Macmillans took about this I do not know; but at the end of a year eighteen copies had satisfied

the demands of the English market, and one of these, as she told me with great amusement, was bought by my kinswoman, the mother of Owen Wister. As no more copies were sold between 1901 and 1906, the Macmillans inquired what they should do with this undesired lot. I said burn them but send me the bound copies. Accordingly, fifty copies were sent to the Century Company for me. They were, however, stopped in our Custom House, and I was informed that as Macmillans had thought wise to put on the front of this book that it was copyrighted in America, the Custom House was obliged to confiscate my unhappy volumes. I endeavored in vain to buy them or in some other way to obtain possession. Uncle Sam, however, was inexorable. Numerically, eighteen copies sold in England, and no more. About 100 were given away to journals in England. The remainder of the English edition were destroyed in some way by Macmillans. Fifty copies were sent over to America and were destroyed in our Custom House, so that this volume I send you is probably one of the very rarest of books. Whether it has any other value or not, you must decide. Frankly speaking, I think the "Lycian Tomb" should have had a better fate, but I am sometimes surprised to find as I grow old how indifferent I am to the fate of literary products after they have passed out of the workshop of my mind. In some cases, like the "Lycian Tomb," and another long poem never yet published, they have remained in my folios unprinted and unseen from seven to ten years.

"I am, with much esteem,

"Yours very truly,

"S. WEIR MITCHELL.

EVENING.

I know the night is near at hand.
The mists lie low on hill and bay,
The autumn sheaves are dewless, dry ;
But I have had the day.

Yes, I have had, dear Lord, the day ;
When at Thy call I have the night,
Brief be the twilight as I pass
From light to dark, from dark to light.

Bar Harbor, October, 1899.

GIBRALTAR AT DAWN.

Up and over the sea we came,
And saw the dayspring leap in flame.
Full in face Gibraltar lay,
Crouching, lion-like, at bay,
Stern and still and battle-scarred,
Grimly keeping watch and ward.
Hark, and hear the morning gun
Salute time's admiral, the sun,
While the bleak old storied keep,
That hath never known to sleep,
Golden 'neath the morning lies,
Sentinelled with memories,
Heard when, rolling from afar,
The hoarse waves thunder, " Trafalgar !"

At Sea, December, 1898.

EGYPT.

I saw two vultures, gray they were and gorged :
One on a mosque sat high,—asleep he seemed,
Claw-stayed within the silver crescent's curve ;
Not far away, another, gray as he,
As full content and somnolent with food,
Clutched with instinctive grip the golden cross
High on the church an alien creed had built.
Yon in the museum mighty Rameses sleeps,
For some new childhood swaddled like a babe.
Osiris and Jehovah, Allah, Christ,
This land hath known, and, in the dawn of time,
The brute-god-creature crouching in the sand,
Ere Rameses worshipped and ere Seti died.
How much of truth to each new faith He gave
Who is the father of all creeds,
I know not now,—nor shall know. Ever still
Past temple, palace, tomb, the great Nile flows,
Free and more free of bounty as men learn
To use his values. Only this I know.

Cairo, 1899.

Flaubert's Epilepsy

BY PEARCE BAILEY, M.D.

In *Madame Bovary*, one may find master studies of physicians and of pharmacology, and scenes from provincial practice duplicated only in Middlemarch. But what attracts physicians chiefly to the book are the qualities of the author. From what Flaubert tells us about himself and from what his friends tell us about him, it is evident that he belongs to the pathological division of the world's writers. As though to amplify such biographical data, the great novel reveals much of the author's peculiar psychology.

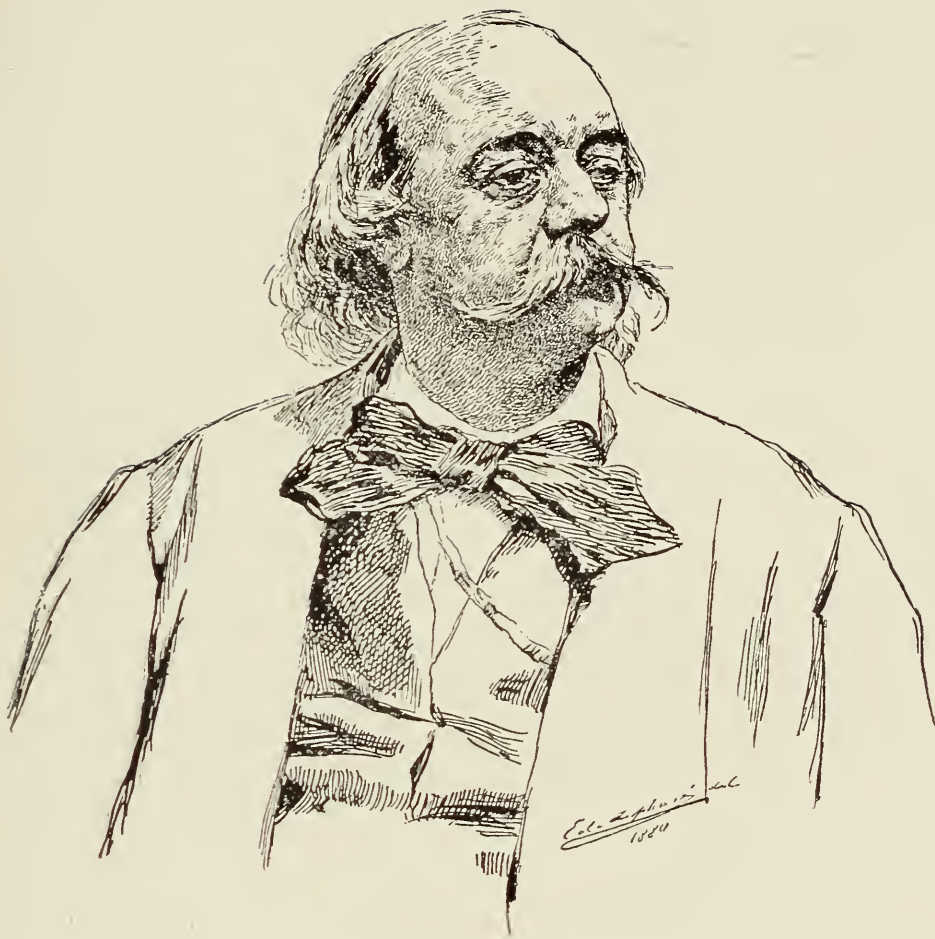
Both together throw useful sidelights on the effects of early impressions, on convulsive diseases and on the reflex working of the artistic mind. They have been variously interpreted. Flaubert has been put down as an egoist, an epileptic, a romanticist gone mad. He himself, better than anyone, saw the springs of his pictorial fancy and grasped the nature of his turbulent yet timid spirit. "My nervous malady," he wrote, "introduced me to curious psychological phenomena of which no one has any idea, or rather which no one has felt." Poor Flaubert! Many have felt them, but few have been gifted with your powers of graphic expression.

Gustave Flaubert was born in the Hotel Dieu, in Rouen, in 1821.* His father, Achille-Cléophas Flaubert, "de l'école chirurgicale sortie du tablier de Bichât," was the best-known surgeon in Normandy. He was of so winning an address that when, an interne in Paris, he consulted Baron Duputren about his health, the Baron recognized a dangerous competitor for the Paris faculty and advised the young man to partake himself to the country. Here he lived and worked and died, his chief gift to posterity being his example and oral teachings. But in one of his few scientific communications (1827) may be found the earliest record of the lower arm type of brachial plexus palsy which fifty years later was described by Miss Klumpke of California (now Madame Déjérine).

As Doctor Larivière, Gustave describes his father: "Dédaigneux des croix, des titres et des académies, hospitalier, libéral, paternel avec les pauvres et pratiquant la vertu sans y croire, il eût presque passé pour un saint si la finesse de son esprit ne l'eût fait craindre comme un démon. Son regard, plus tranchant que ses bistouries, vous descendait droit dans l'âme et désarticulait tout mensonge à travers les allégations et les pudeurs. Et il allait ainsi, plein de cette majesté débonnaire que donnent la conscience d'un grand talent, de la fortune et quarante ans d'une existence laborieuse et irréprochable."

The Hotel Dieu of Rouen was a busy place, and young Flaubert had many opportunities to become familiar with grim detail. To watch his father dissect

* It is a peculiar coincidence that the Russian novelist, Dostoyevsky, an undoubted epileptic, also the son of a doctor, was born in a hospital in the same year as Flaubert.



Gustave Flaubert, par E. DE LIPHART.

GUSTAV FLAUBERT (1821-1880)



ACHILLE-CLÉOPHAS FLAUBERT (1734-1846)

was one of his diversions, and autopsies he rarely missed. The early associations sunk deep into his personality. "I never see a child," he wrote later, "but I think he will become an old man, nor a cradle but I think of a grave;" they were never forgotten. Years afterward, death would recall cadavers; and on thinking of his sister, whom he dearly loved, and who died when he was twenty-five, "he saw again the two of them as children climbing the lattice work which shut off the garden from the amphitheatre of the Hotel Dieu, watching the corpses on the dissection table, their father at his work, and the buzzing flies which flew from them to the flowers, to the dissection tables and back to them again."

His life was consecrated to letters. He took infinite pains to be accurate in fact and in his composition would reject word after word till he found the one to match the delicate shade of his meaning. "It is easier," he says, "to become a millionaire and live in Venetian palaces than to write a good page and be satisfied with one's self."

Maxime du Camp, his friend, maintained that Flaubert's slowness of construction was due to disease. "He was," he says, "a writer of rare talent; without the nervous malady which overtook him he would have been a man of genius."

The illness referred to was a series of epileptiform convulsions, facts regarding which are as follows:

De Goncourt says in his journal: "Flaubert told us that when he was a child he would become so immersed in his reading, with tongue pressed between his teeth and twisting a lock of hair with his fingers, that he would suddenly fall to the floor. Once he cut

his nose in striking against a pane of glass." And De Maupassant states that Flaubert, as a youth, would stand and read, sometimes for an hour, without moving, deeply immersed and apparently unconscious, but with brain working actively.

At the age of twenty-two Flaubert had a number of convulsions, which were repeated on a few subsequent occasions, some at night. The first attacks threw his family into great consternation. A doctor or an attendant was constantly with him, and he passed a year or more in fear and depression. "This nervous malady," his niece wrote, "overhung his whole life like a veil; a fear that overhung his happiest days."

We have descriptions of these attacks from two sources—Du Camp and Flaubert himself. Du Camp's description is as follows:

"In the month of October, 1843, he had been at Pont-Andemer. His brother went there for him. On a certain evening they started for home together in a buggy, Gustave driving. The night was dark; on the outskirts of Bourg-Achard, as a man pushing a cart passed the buggy on the left, and with the light from a lonely inn on the right, Gustave was overcome and fell. His brother immediately bled him, hoping, though not very confidently, that he had been the witness of an accident that would not occur again. Other attacks followed, four in all, in the next two weeks. . . . Many times have I, terrified and helpless, been present during these attacks. They always occurred in the same way and were always ushered in by the same symptoms. Suddenly, without apparent cause, Gustave would hold his head up and become very pale. He had felt the aura, that mysterious breath which passes

over the countenance like the flight of a spirit. His face bore a look of anguish, and he would shrug his shoulders with a gesture of discouragement which was heart-breaking. He would say, 'There's a flame in my right eye,' and then after a few seconds, 'There's a flame in my left eye; everything looks golden to me.' This peculiar state lasted several minutes. And all this time it was plain to me he was hoping it would be nothing but an alarm. Then, his face blanching still further, would take on an expression of despair. He would walk rapidly up and down and run to his bed, throwing himself on it, depressed and gloomy, as though he were getting into a coffin. And then he would cry out, 'I have the reins—there is the man pushing the cart—I hear his bell. Oh! I see the light of the inn.' Then, after a groan whose rending note still rings in my ears, he would pass into the convulsion. In it, his whole body shook, and after it he went into a deep sleep and was exhausted for several days."

It is needless to point out the defects in the above description. Du Camp was no doctor. But nevertheless, this account long passed as proving Flaubert an epileptic and has made of him a stock argument for the degenerative origin of genius. From Flaubert himself we learn that the attacks were not accompanied with loss of consciousness.

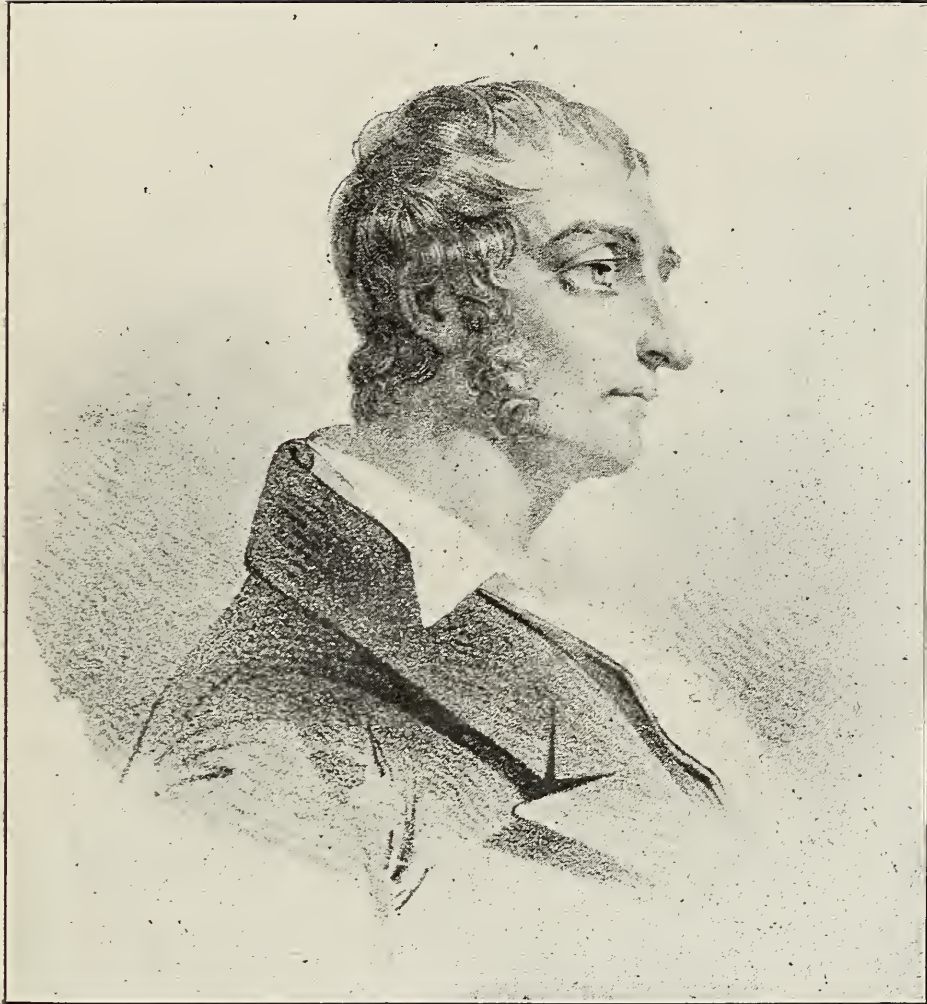
"The trouble I had with my nerves," he wrote retrospectively to his mistress, "was the froth of my intellectual pleasantries. Each attack was like a kind of hemorrhage of the innervation; seminal losses of the pictorial faculty of the brain, a hundred thousand images dancing together like fireworks. It was a brutal wrenching of mind from body (several times I thought

I was dead), but that which constitutes the personality, the thinking part of me (*l'être raison*) never let go. Without that, there would have been no suffering, for without that I would have been purely passive. As it was, I was always conscious, even when unable to speak. Then it was my mind bent on itself, like a porcupine sticking itself with its own quills."

"You asked," he wrote a friend later, "how I cured myself of the nervous hallucinations I used to have. In two ways—first by studying them scientifically—that is, by trying to explain them to myself; and secondly, by force of will. I often felt myself going mad. My poor brain had a confused flock of ideas and images and it seemed that my consciousness, my I, was foundering like a ship in the storm. But I clung fast to my reason, which though beaten and broken, triumphed. At other times, I would try in imagination to reproduce these horrible sufferings. I played with madness and fantasy like Mithridates with his poisons. Pride sustained me, and I conquered the trouble by crushing it in a hand-to-hand struggle."

These are the chief facts we have concerning his disease. His doctors have left no records. Surely none of them understood his case. Some bled him, one threw up his hands and perscribed quinine. He was told to stop smoking, and Hardy, the dermatologist, called him a hysterical old woman to his face. In default of something better to go by, we are forced in seeking a diagnosis to try to estimate his psychological characteristics.

All who write about Flaubert, including Flaubert himself, dilate upon his sensibility. This showed itself, in its externalizations, by apprehension, facile emotions,



BICHAT (1771-1802)

intolerance, egotism, a fanatical loyalty to his ideals and a warm affection for his friends. As a young man he was handsome, popular, a brilliant talker, bubbling with health and spirits, the life of the company he frequented. As he grew older and retired more from the world, the sombre features of his temperament, traceable to the impressions of his youth, came more into prominence. He was depressed, shunned society, smoked incessantly, worked with a frenzied industry, sat up late and often did not leave the house for days at a time. Nothing in all this is so extraordinary. The real understanding of his sensibility which was his character is best furnished by the internal workings of his mind. He has left some records of these in his letters.

"For a month I have been in a peculiar state of exaltation, or rather of vibration; at the slightest idea that comes into my mind, I undergo the peculiar effect that one feels to the tips of the fingers, in going near a harp."

He was doubtless drawing on his own sensations and what they caused him when he voiced his theory of genius: "Perhaps genius after all is only a refinement of suffering, a meditation on what is going on outside of us, as it appears translated by our mind. The sadness of Molière was the result of all the human frailty which he himself felt; he suffered from the *Diafoirus* and the *Tartuffes* which got into his brain through his eyes. Did not the mind of a Veronese saturate itself with colours, like a piece of cloth in the boiling vat of a dyer? Were not all tints so magnified that none could escape his eye?"

When at work on *Madame Bovary* in 1853, he wrote his mistress: "I am tired out. I feel as though

I had an iron helmet on my head. Since two o'clock this afternoon—with only about twenty-five minutes out for dinner—I am writing on *Bovary*. I go with them on their horseback ride. I am of them. Perspiration runs and throats are dry. This is one of the few times in my life that I have passed the whole day in complete illusion. Just now, as I was writing the words '*attaque de nerfs*,' I was so carried away, was talking so loud and feeling so deeply what my poor little woman was going through, that I was afraid I was going to have an attack myself. I got up from the table and opened the window, my head spinning." And again: "My imaginary people take hold of me and follow me, or rather, it is I who am in them. When I was writing the poisoning of Emma Bovary, I had so distinctly the taste of arsenic in my mouth, was so thoroughly poisoned myself, that I vomited my whole dinner."

Elsewhere he says he sometimes passes whole days without consciousness of his personality, so deeply does it become merged in his books: "A book for me is nothing but a way of living. That's what explains my hesitation, my terrors, my slowness."

These confessions reveal a sensibility which permits an artist to isolate himself psychologically, to lose himself in his creations, to become an unconscious tool in the hands of his genius. They are more than verified by the great novel. *Madame Bovary* is a masterpiece of fiction. Flaubert wrote other books of rare merit. But it is *Bovary* which placed him among the immortals. And the reason is this, that in this character he described with startling accuracy a type of mind which was his own. On the face of it, there



GUSTAV FLAUBERT, AGED 9

is not much in common between a solitary man of letters and the faithless wife of a provincial doctor. But the resemblance was psychic, not material. Flaubert, on the slightest stimulation, would be translated from his environment. For Emma, "the sound of a church bell would recall her days at the convent, the altar, the nuns, the figure of the Virgin." Flaubert was a hypochondriac, introspective, always searching for symptoms and once thought he had cancer of the stomach. Emma "at times had pain in the region of the heart, then again in the chest, in the head, in the limbs; she began to have attacks of vomiting in which Charles (her doctor husband) thought he could see the symptoms of a cancer."

Both had convulsive attacks following emotional crises. Flaubert wrote of himself: "In the true hallucinations you feel your personality leaving you—you think you are going to die." He wrote of his heroine: "She only suffered from her love, and, by the mere memory of it, felt her soul leaving her, as the wounded in dying feel their life ebbing away through the wound which bleeds!"

In Emma, Flaubert describes himself; unconsciously without doubt, and with changes enough in environment and costume to defy, for a time, detection. But the psychological identity is there. And from a study of the mental disorders of the fictitious character we get our truest conception of Flaubert's own peculiar illnesses. Emma was no epileptic. Neither, from the internal evidence, which is the best evidence we have, was Flaubert.

Franciscus Sylvius.

BY SMITH ELY JELLIFFE, M.D.

The name Sylvius is handed down to us attached to at least five different cerebral structures: the fissure, the fossa, the artery, the aqueduct, and the ventricle. It is not beyond dispute just how the various names arose, and among writers a certain amount of disharmony exists in statements. Thus, to the older anatomist Jacopus Sylvius (latinized form of Jacobus Dubois), of Amiens (1478-1555), the fissure of Sylvius is said to be dedicated, while other biographers claim the distinction for the fissure to be due to Franciscus Dubois (latinized form of François de le Boë), of Hanover, near Frankfort-on-the-Main (1614-1672).

It seems a strange freak of biographical omission to find that there is practically little to be found in English literature concerning either of these men, and the present communication is largely planned to fill up this gap, in part at least. Since this was written an excellent study on "The Two Sylvius" has appeared in the *Johns Hopkins Bulletin*, by Frank Baker, of Washington, Nov. 1909.

The aqueduct is usually ascribed to Franciscus, although we find it described as an aqueduct by Arantius, J. C., in his "Observationes Anatomicae," Venet., 1587, thirty-two years after the death of Jacopus Sylvius and twenty-seven years before the



FRANCISCUS DELEBOE SYLVIVS

birth of Franciscus (compare Baker, l.c.). Ziehen has called attention to the fact that Morgagni, in his "Epist. anatom.," 1762, protests against the use of the word Sylvian Aqueduct because of these earlier descriptions. The early French anatomist (Winslow, 1669-1760) termed it the "canal mitoyen." In fact, the passage from the third to the fourth ventricle is mentioned by Galen (Daremborg edition), Oribasius (id.), Berengarius and by Vesalius. As Baker has said, Jacopus in describing it never calls it an aqueduct.

As to the fissure, there is little doubt. Vicq. d'Azyr, in his "Planches Anatomiques" (Paris, 1786, Part III, p. 57), in explanation of Plate XIX (here reproduced), says in describing the external branch of the carotid, 21, 21: "Its volume is a little more than that of the anterior branch. I have given it the name of the Sylvian artery, because it runs into the fossa of that name. The Sylvian artery divides, usually, into three principal branches, 22, 23, 24, of which the middle, 23, is placed at the bottom of the fissure that *Sylvius de le Boë* has described. It is this artery, says Vieussens, that separates the anterior from the posterior lobes of the brain." These arteries, we learn from the same source, have borne the names Rami posteriores carotidum Halleri (Willis-Cheselden); and Bonhomme, who published correct drawings (Heuerman, Table VIII), has represented them correctly in the fissure of Sylvius. Fallopius, Guido Guidi, Wepfer and Haller had seen them.

Thus, if we accept the statement of Vicq. d'Azyr, one of the authoritative brain anatomists, we find that he himself named the Sylvian artery, and that

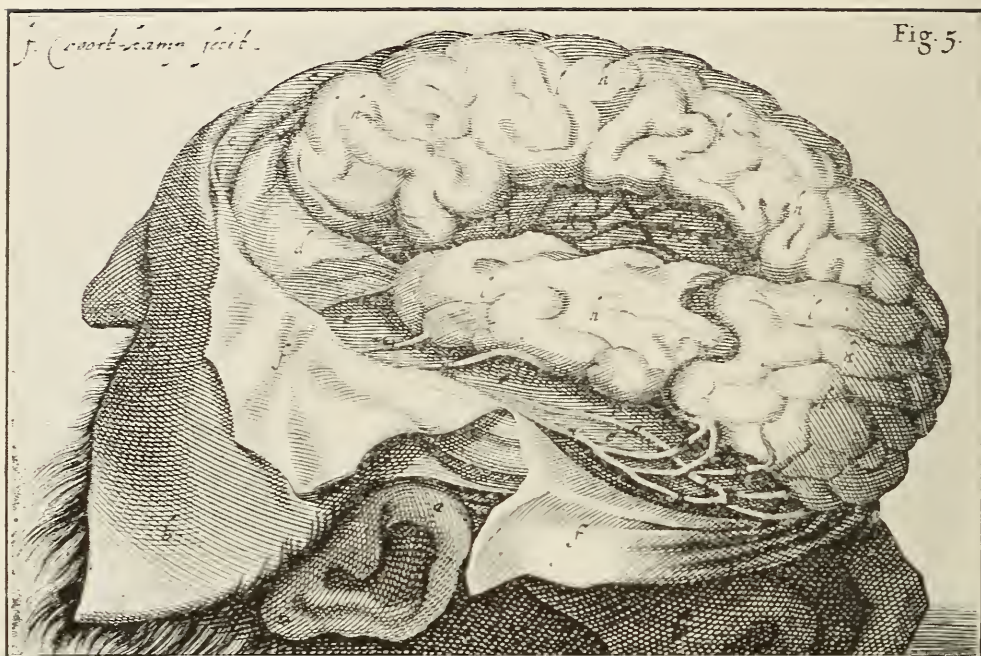
Franciscus Sylvius is responsible for the naming of the fissure.

Tracing the matter further back, we find that Haller, writing in 1774, 12 years previously, says in his "Bibliotheca Anatomica," Vol I, p. 389: "Franciscus de le Boë described the fissure which bears the name of its discoverer."

Going back to Bartholinus, practically a contemporary of Franciscus Sylvius, we find in his Anatomy* the following :

"Anfractuosa cerebri fissura. Anfractus si diligentius examinaveris, quod nos primus docuit Franciscus Sylvius, anatomicus magnus, eos satis profunde descendere comperies, cerebrum que hiscere utrinque praetor divisionem illam mediam a falce factam per anfractuosam fissuram quae in parte circa radicem oculorum principium suum habet, unde secundum temporis ossa retro supra spinalis medullae radicem procedit ac cerebri partem superiorem ab inferiore dividit ne unis partis laesio alteri statim communicetur, forsam etiam ad faciliorem motum. Subinde tamen fissura illa magna reperiri vix potest."

* "*The winding fissure of the brain.* If you will examine the fissures somewhat carefully you will find, as Francis Sylvius, the great anatomist, first showed us, that they dip in rather deeply, and that the cerebrum is divided deeply on both sides beyond the middle division made by the falx by the winding fissure which has its beginning in part near the root of the eye, whence it proceeds along the temporal bones back above the root of the spinal medulla and divides the upper part from the lower, lest a lesion of one part should immediately be communicated to the other and



FIRST ILLUSTRATION OF FISSURE OF SYLVIIUS

perhaps also for the sake of more easy movement. Lower down, however, that large fissure can scarcely be found.”—Tr. by Dr. James J. Walsh.

This passage as given by Baker is worth quoting :

“F. S. Anfractus quod in fig. 5. factitatum, si diligentius examinaveris, eo satis profunde descendere comperies, cerebrumque hiscere utrinque per anfractuosam fissuram, quae in parte antica circa radicem oculorum principium suum habet, unde secundum temporis ossa retro supra spinalis medullae radicem procedit, ac cerebri partem superiorem ab inferiore dividit.

“Arteriarum carotidum rami hic plurimi feruntur, tum in superficie, tum in fundo, quibus molesta illa in capitis doloribus circa temporum regionem pulsatio accepta videtur referenda.”*

Baker mentions the fact, however, that this is practically a translation of a note on page 262 of the *Institutiones Anatomicae* of Caspar Bartholinus, father of Thomas, which was published in 1641, *i.e.*, practically during Sylvius' lifetime. Baker says that it is the first mention in literature of the fissure and artery of Sylvius.

In 1663 Sylvius himself, in his *Disputationes Medicarum* (1663), makes mention of it as follows :

“The whole surface of the cerebrum is everywhere quite deeply marked by gyri similar to the convolutions of the small intestines, and especially by a notable *fissure* or *hiatus*, beginning at the root of the eyes (optic tracts), passing backwards along the temples above, not further than the roots of the medulla (*crura cerebri*), and dividing the cerebrum on either hand into

*The accompanying figure is Fig. 5 mentioned by Bartholinus and is the first known illustration of the Sylvian Fissure.

an upper, much larger part, and a lower, smaller one; with gyri occurring the whole length and depth of the fissure—I may even say with the beginnings of lesser gyri at the very upper part of the root.”

This is enough evidence to fully satisfy us as to the fissure of Sylvius being described by and named for François de le Boë.

The Dubois family, or, in the more musical pronunciation of the Languedoc, the de le Boë family, was ancient and honorable. Seven hundred years at least could the pedigree of our François be traced to a brave Laurent of the tenth century, who fought heroically for his prince. Other brave names there were in the family annals; but when religious persecution of the Reformed Church began to make itself felt, François, the grandfather of this physician, who had been deprived of most of his means by means of the wars, decided to expatriate himself.

The Inquisition reigned in Spain, and the Protestants in the North were spied upon and tortured as much as in the South. Germany was, however, beginning to settle down after the Hundred Years War, and François de le Boë decided to betake himself to the Land of Luther in search of peace and prosperity. Accordingly he settled in the little town of Hanau, with his wife and nine children. His two sons were piously named Isaac and Jacob. Isaac, the only son who lived, married Anne de la Vignette, a woman of an important family of Cambrai, probably also in exile. Of this union, François de le Boë, somewhat of whose life I wish to tell you, was born in 1614, the same year that the University of Gröningen was founded.

He was described as a strong, fine child, of great bodily vigor and spirit, with a mind as fine as his face was beautiful. His father hoped that by giving him the best possible education he might make up for his lack of means and place his son in the rank of his ancestors. So, at an early age, François was sent to Sedan, a French Protestant town on the German border. Sedan was one of those cities of refuge where the Huguenots were tolerated, and its academy, which was under the protection of one of the most powerful families interested in the Reformation, was presided over by a faculty of men who were not only very learned but very religious.

After having gained his preliminary education the young François was invited to a family council in his native town and given his choice of several careers,—business, the military life, or letters, which of course included the sciences. To the great delight of his father, he chose the latter, with a special desire to study medicine. Accordingly, he was immediately sent back to Sedan to begin these studies.

He greatly outdistanced all his fellows, and then announced his desire to travel, fearing, as he explained, that he would acquire errors and prejudices from which it would be difficult to extricate himself later, if he studied in one place only. Therefore he set forth to visit the principal academies of the Continent.

In the absence of all literary intercommunication between countries the quickest and surest way of knowing a man's work was to go to him and sit under his teaching. François went first to Paris, then to the Netherlands, and finally to Germany, pushing his enquiries in every university along the lines of chem-

istry and anatomy. He considered these the fundamental subjects of the science, but he did not confine himself to these studies alone, but threw himself with great zeal into physics, botany and zoölogy. Finally he went to Basel and presented himself to the Faculty of Medicine as a candidate for a degree. This was in 1637, when he was twenty-three, and so valiantly did he discuss, and so victoriously did he answer all arguments, that he was judged worthy to be crowned with the laurel of Apollo, and with this triumph received the signs of his profession, the cap and ring and book, and, having received the kiss of peace, was admitted into the medical fraternity.

From this time on he was considered sufficiently wise to bear a Latin name, and instead of being François de la Boë, or what in English would be plain Francis Wood, he was Franciscus Sylvius.

With becoming modesty the young François stayed at Basel to learn what he could and justify his laurels; but his father sent for him and wished him to begin his practice in Hanover, to which he obediently acquiesced.

Although he was the son of a refugee, the German city conferred every distinction upon him. The field, however, was too narrow, and in a couple of years he went again to Paris, with the intention of studying with one whom he wrote of as a great philosopher, a physician, a chemist and an anatomist. He never mentioned the name of his ideal, but it may have been Descartes, whom he often met later in Amsterdam when Descartes, for lack of orthodox views, was obliged to go to Holland.

Finally, attracted by the professors of the Leyden

University, he arrived in that city with his honors and his knowledge still fresh upon him, and settled down to the practice of medicine. He began to give a course of lectures in anatomy, which became so famous that hundreds of students flocked to him. Among them came Swammerdam and Jean Van Horne. Soon no one was considered to have any knowledge of anatomy unless he had studied with Sylvius, and Leyden was overrun with students.

The novelty of his instruction explains in part the cause of the extraordinary impression which he made. Sylvius was the first in Holland to demonstrate the circulation of the blood according to Harvey, and since he demonstrated it well, and with spirit, he convinced the most incredulous—so well, that that which passed as an ingenious and amusing paradox at Paris was well recognized as true in Leyden.

The anatomical lessons of Sylvius, of which one finds fragments in the collection of his writings, were made towards the end of 1640 and the commencement of 1641.

It was not long, however, before he was invited to go to Amsterdam. He hesitated, but his friends insisted, and finally he went. On his arrival the deacons of the Wallonian Church confided the care of the sick poor to him. This charge, without pay, gave him the public confidence, and at the same time facilitated his clinical researches. He was now about twenty-seven or twenty-eight. He took the city of Amsterdam by storm. The inhabitants acted as though an Apollo had descended from Olympus to cure them. They besieged his door, and there was not a serious case in the town that he was not called in in

consultation. It is recorded of him, by an admiring biographer, that his zeal was indefatigable, that he showed the greatest consideration and sympathy for his patients, especially for the poor, and that he was polite and affable to everyone without losing his dignity. In short, Sylvius earned and deserved his title of the Oracle of Amsterdam. His earnest and admiring biographer, Lucas Schacht, indulges in panegyrics over a virtue apparently in small vogue in those days. He states that Sylvius had never been seen intoxicated. Now it was a light jest in those days in Amsterdam that when you wanted a physician you must look for him in his cups; so Sylvius in his sobriety passed as holy.

In 1650 he married Anna de Ligne, but in seven years she and their two infant sons had died.

In 1658, on the death of Kyper, Sylvius was called to the University of Leyden, to fill the chair of the practice of medicine; but, with all the scruples of the ethical man, he fell a prey to indecision. A professor, he held, was placed in the equivocal position of being supposed to know things of which he really was ignorant. He was in danger of becoming querulous and superficial, he feared, and he hated the idea of the endless controversies in which he would be involved by the jealous and envious. With his time so occupied with his clientele, and with the duties of his chair, where would he have any time for thought or personal liberty.

Finally, his friends and his father-in-law argued him into an appreciation of his opportunities. Amsterdam went into mourning and Leyden gave vent to its joy, and Sylvius journeyed to the latter city to

become her model professor—a handsome, well-built, elegant man, clear and concise in his speech and polite and good and sincere in his manner. His appreciative biographer can hardly find adjectives enough to describe his personal and moral charms.

In 1658, in solemn assembly, he delivered his inaugural address in Leyden. His subject, "The Knowledge of Self," has a modern flavor. One notes therein the very right thought that the fundamental principles of civil society have not as they should have the character of absolute certainty. Neither theology nor jurisprudence nor medicine are in possession of the truth, plain and entire, such as the spirit conceives and desires,—of such a nature that the three essential virtues, pity, justice and temperament, have no certain laws. This *rapprochement* can only lead to this conclusion, that medicine is an art and not a science, and that progress is only possible by the unison of experience and reason. Therefore, opinion should be free and when there is any doubt, it is necessary to invoke, not authority, which often consecrates error, but reality. This discourse, which at a first reading seemed mild and moderate, was in reality a very clever presentation of a programme of independent innovation.

His philosophy and his oratory so pleased his audience that whenever he was to lecture the auditorium was crowded. Students came to hear him from Hungary, Muscovy, Poland, Germany, Denmark, Sweden, Switzerland, France and England, and then returned home to spread his fame. Among his pupils and disciples may be mentioned in particular, De Graaf, of the follicles, Stenson, Swammerdam, Van

Horne, and finally Willis, who was to carry out his work on the anatomy of the brain.

Not only did the University grow from day to day, but the City of Leyden enjoyed unheard-of prosperity, which was due largely to the greatness of Sylvius.

The calumnies which attend the successful man were not wanting in the case of Sylvius, but were liberally supplied by the neighboring University of Gröningen, whose elderly professors were pained to see such a young man at the head of Holland's medical schools. Under pretext of discussing scientific questions, they maligned him and slandered him, and gave him all the gratuitous advertising that proceeds from such a rivalry. Through it all Sylvius evidently seems to have kept his temper, as well he might, for the students of the rival university went over bodily to him.

His life at this period was happy, until in 1669 he lost his second wife, to whom he had been married two years previously. His infant daughter died also. The disease, which ravaged the entire town of Leyden at this time, and which Sylvius described in detail, seemed to bear some analogy to typhoid fever. Sylvius himself was attacked during the epidemic, but recovered. Two years later, however, in 1672, that fatal year for the Republic of Holland, when Jean and Cornelius de Witt were assassinated, Sylvius, though only 58 years of age, succumbed to what apparently was typhoid fever. To his friend Lucas Schacht, who afterwards delivered his funeral oration, he said: "I know as well as you the seriousness of the disease from which I escaped three years ago. This time I shall die."

With forethought of his latter end, Sylvius had prepared a tomb for himself in the choir of St. Peter's of Leyden, and there he was interred in the presence of all the magistrates of the city, the professors and students of the University, who had gathered to pay homage to their most illustrious professor.

This circumstance, says his pious biographer, would seem to contradict the opinion of those who would make Sylvius a materialist. If he had been a disbeliever, there is a great probability that he would never have had the great faith reposed in him in a state where the reformed religion was so dominant. He was a descendant of a family of religious refugees. He never discussed those dark questions which one is pleased to call the great problems of human destiny. It is certain that he believed in Providence, since he attributed the pest and the epidemics to Divine wrath, and that on the occasion of the epidemic of which he himself felt the effects he seriously counselled the people to amend their ways and do penance in order to make the remedies more efficacious. Homer did not profess any other belief for the origin of epidemics. We might add that Sylvius loved to moralize, and that he frequently interrupted his demonstrations or dogmatic expositions to preach. He conjured his enemies to be more charitable, and in actively replying to them he called on God to witness the purity of his intentions. In his discourse on the curse of the pest, delivered scarcely two years before his death, he spoke only of the distress and the pain of his co-religionists; as to the other sects, he expressly declares that he will not make mention of them.

That which merits note is that Sylvius, who ad-

mitted a soul distinct from the body, believed it susceptible of pathological lesions. It is true that to attack the maladies of the soul he knew no other remedies than good words and remonstrances. We may add that the soul, which he did not separate from the brain, without daring at the same time to assign it a place in the ventricles, as Galen, the Arabs and the Scholastics, nor even in the pineal gland, as Descartes, could not, according to him, pass with the animal spirits, and that the animal spirits were secretions; they were the real expression of the entire encephalon, for they never separated the cerebrum from the cerebellum. One sees that Sylvius was very near finding the famous metaphor of Cabanis, which one has wished to make the formula of materialism absolute.

It is frequently stated that Franciscus Sylvius was the first to give bedside clinics. This is not so. Gerster has told us in his life on Van Swieten how modern bedside teaching began in Italy in 1558 in Padua by Bottoni and Oddo, how later the custom became extended in Padua and Genoa, and how it fell into comparative disuse, being given at Leyden only in a desultory manner in the Collegium Practicum in the early years of the seventeenth century. The competition set up by the new University of Utrecht forced Heurnius to organize his 12-bed-clinic, where demonstrations were held bi-weekly, at first to listless audiences, and later, under Kyper and Sylvius, to steadily increasing numbers with waxing enthusiasm. Bildoo kept them alive, and Boerhaave set his stamp on them forever.

At these early clinics in Leyden, in our mind's eye we can see the future practitioners of New Amsterdam.

How many sat under Sylvius it is difficult to say, but there were possibly a few, for in 1658, when Sylvius came to the chair in Leyden, there were four more years of Dutch colonization in New Amsterdam, the English occupation occurring in 1664. The first hospital in North America was founded the year that Sylvius took his chair. It was on Manhattan Island, and, as the Old Hospital, stood for at least 102 years. The first coroner's inquest was also held the same year. Sylvius' zeal for autopsies had gone with his countrymen to foreign lands.

His methods of teaching are perhaps worth quoting from Schacht's description :

"When he came with his pupils to the patient and began to teach, he appeared completely in the dark as to the cause or the nature of the affection the patient was suffering from and at first expressed no opinion upon the case. He then began by questions put to different members of his audience to fish out everything, and finally united the facts discovered in this manner into a complete picture of the disease in such a way that the students received the impression that they themselves made the diagnosis and not learned it from him."

Sylvius' closest affinity with the present day was in his belief that the secret of health and disease lay in chemical reactions. His ideas were incorporated in a system of therapeutics based on the chemical reactions of certain drugs, such as nitrate of soda, mercury, and especially antimony. His rivals said that his system killed more men than the Thirty Years' War; but though he, as a practitioner, was counted most successful, his system, founded on imperfect knowledge, was

too vague and incomplete to live long. Yet the idea for which he was groping has become the lode-stone of medicine to-day, and we owe it to Sylvius and his one-time teacher, Paracelsus.

The Flutter of the Goldleaf

IN ONE ACT AND FOUR SCENES

BY FREDERICK PETERSON, M.D.

CHARACTERS

PHILO WARNER	.	.	.	A Student
HIRAM WARNER	.	.	.	His Father, the Village Grocer
MARY ANN WARNER	.	.	.	His Mother
Dr. BELLOWS	.	.	.	The Village Physician
DR. SEYMOUR	.	.	.	The City Specialist

ONE ACT

SCENE I—Sitting Room in the Warner Cottage

SCENE II—The Laboratory in the Cottage Attic

SCENE III—The Consulting Room of Dr. Bellows

SCENE IV—An Asylum Window.

SCENE I (*Sitting Room in the Warner Cottage. Rag carpet. Flowered country wall-paper. Some geraniums in pots by one window. An iron parlor stove. A country lamp. Prints of Washington, Lincoln and Grant on the walls. Wax flowers under glass on a marble-topped side table. Haircloth sofa and chairs with tidies. Many colored tablecloth. Hiram and Mary Ann Warner present. Mrs. Warner knitting and Mr. Warner with a country newspaper*).

Mr. WARNER.

I tell you, Mary Ann, the boy is mad. Deacon Willets stopped me to-day and said we ought to have the doctors see him. I fear there is much gossip in the town about him. He always has been different.

from the other children, and his queerness has grown upon him. He goes about as if in a dream, and he is of no use at all at the store. He weighs a pound of coffee as if he was asleep, and the customers all look half afraid of him when they come in.

Mrs. WARNER.

Yes, Hiram, we made a great mistake in sending that boy to college. He ought to have been kept on a farm and made to do out-door work. Those books from the library he was always reading didn't do him any good. He just grew thin and pale over them, especially over that set of Sir Humphrey Davy's Complete Works with so much about electrics and Davy's dreams about the stars. We ought to have stopped it sooner. The college made him worse. I don't see where his queerness came from, though your mother, Hiram, was a rather strange woman; I never thought her quite right in her mind. You know how she used to wander about nights and stare at the stars with an old spy-glass that Captain Barker gave her; and she neglected the house, as you know yourself. There wasn't anything like that in my family—thank goodness!

Mr. WARNER.

Well, there's truth in what you say, Mary Ann. She wasn't a good housekeeper like you. She was bad at cooking and mending, and things went wry about the house, but she was a good mother to me all the same, though she did cry when I refused to go to school and went into the grocery business and later married you. There was a side to her I didn't understand, and I suppose some of her freakishness has come out in the boy, but he is much worse than she

ever was. Perhaps she would have been foolish too if she had had any books to read, but in those days there weren't any libraries or magazines or morning newspapers. The only reading she had was the *Weekly Mirror*, which was a pretty good agricultural paper at the time and gave lots of items about stock and crops and county fairs and the doings of the country folk.

Mrs. WARNER.

If he had only been like the others! They are so natural, just like everybody else. Alice is so neat and tidy and helps me in the housework; Johnny is just fine on the wagon, and Will is sure to grow up in the business and be a good steady clerk. Like enough he'll be at the head when you're ready to let him have the place. What's that! (*Footsteps overhead are heard.*) The boy has not gone to bed yet and it's eleven o'clock! I sometimes hear him walking about the attic long after midnight. We must do something to get him away from there.

Mr. WARNER.

Yes, I know. I lie awake nights listening to him and thinking what is to be done about it. Sometimes I hear him talking to himself, and I have been half afraid. I have thought we ought to clear out the attic some day when he is out, burn the books, and get rid of all those confounded wires and jars and queer fixings. He's spent everything he earns on them. I'm sure he hasn't saved a penny of his wages. Mary Ann, after the deacon stopped me to-day I just dropped in to see Dr. Bellows for a little talk.

Mrs. WARNER (*eagerly*).

What did the doctor say?

Mr. WARNER.

He said as how he had watched Philo a long time. At first he thought well of him and hoped he might grow into one of our village lawyers or doctors some of these days, but after a while he began to see before any of the rest of us did that the boy must have something wrong with his head, and he advises bringing up a specialist from New York to examine him.

Mrs. WARNER.

I am afraid we will have to do it, poor boy; but we must do everything we can to cure him before it is too late. Have you heard the things he says to himself? It is something like this, "What will they do when they know? What will they do when they know? Will they believe or will they call me mad?" It is just as if he had some dreadful secret on his mind that is weighing him down. Hiram, we must have those doctors come to-morrow. It is breaking my heart. Now I shall call him and tell him it is time for bed. (*Goes to the door and calls.*) Philo dear, Philo, come down. It is time to go to bed. Philo! Philo!

PHILO (*outside*).

Yes, mother, I'm coming. (*Philo enters, pale, distraught, almost in a trance state.*) I wish I could tell you, but how should you know? How should you believe? There is nothing wrong with me. It is all true.

Mrs. WARNER.

There, there, my boy, you will feel better to-morrow. Come and have a good sleep. To-morrow the doctors will come to see you.

PHILO (*talking dreamily to himself*).

The doctors? The doctors? O yes, they will come to-morrow. Will it be safe to tell them?

[*Mother leads Philo out to his room as curtain falls.*]

SCENE II (*The Attic Laboratory. Garret rather dimly lighted by two windows. Two or three kitchen tables loaded with apparatus, a bench or two and two wooden chairs. Wires strung about. Philo walking about the room*).

PHILO (*soliloquizing*).

This is no dream. No, I am awake. But all the the world sleeps, mankind equally with the rocks and trees and hills. The sunlight dazzles his weak, blinking eyes. The night closes them. All day he plods his little round of field or street with face to the ground, seeing nothing, hearing nothing, heaping up with tired hands—nothing; while all around him, out of the unseen, beating on blind eyes and deaf ears and tranced brain, sweep the winds of eternity, the ether waves from the stars and the imperishable signals from the unknown deeps of space—Stupendous revelation! Yesternight again the same measured fluttering in the electroscope, over and over and over again—two beats—then three—then two—then four and a pause! When I first noticed it three weeks ago, the faint flutter of the gold leaf in regular rhythm, my hair stood on end, my very heart stood still, for I knew by careful estimate that any waves from a nearer point than 35,000,000 miles away must destroy so delicate an instrument. There it is again—two beats—then three—then two—then four and a pause! It haunts me. I cannot sleep. It is a studied measure! It has meaning. There is

intelligence behind it. Is it a question or is it an answer? Whence from among the hundred million spheres comes this message, and for how many centuries has it been sent outward to the deaf and the dumb and the blind? Would someone talk to us out of the deeps and bear on the wings of lightning over the universe the verities of racial dreams? What language and what word! Whence comes it and for whom destined? Is it *hail* or *hope* or is it *help*, some short word brimming with meaning? And if I tell the world of the message, will the somnambulist masses raise up their heads to the skies? Will the man with the hoe wake up, and the woman in the factory and the sleep-walkers in the streets and in the shops, and the mad people with their heaps of gold? Or will they jeer and laugh and destroy me? Alas! I fear I have learned too much, and the weight of this discovery is more than I can bear. Let me be calm and hold fast to the more familiar things of every day. (*A knock at the door.*) Come in!

[*Enter Dr. Bellows and Dr. Seymour.*]

Dr. BELLOWS (*effusively*).

How do you do, Philo? I heard you were not well and I have asked my friend Dr. Seymour, who chanced to be visiting me, to come along with me and see you. This is Dr. Seymour, Philo.

PHILO.

How do you do, sir? I am not surprised at a medical visit, but I hardly expected to see you in these rather shabby quarters. Please take seats.

SEYMOUR (*looking about with interest*).

You are deep in electrical work, I see. This looks like the workshop of a busy student. Have you not

been working too hard? You look tired and worn out. (*Takes a seat.*)

PHILO (*seating himself opposite the doctor*).

Yes, I am tired perhaps, but I am well. When a man makes a momentous discovery (*the doctors look significantly at each other*) he is apt to be a little overwrought. He may not eat or sleep well for a time. He may even appear to be strange or mad. (*Doctors exchange looks.*)

BELLOWS.

Well, my boy, tell us about the discovery, there's a good lad.

PHILO

(*getting up and walking slowly up and down the room*).

I think I will. It will be another experiment. I know what the effect will be upon Dr. Bellows. He is an old friend of mine, but, you, sir (*turning to Seymour*), are a stranger and I like your face. I should like to try your mind and see if you are awake or asleep. (*Doctors look at each other.*)

BOTH DOCTORS.

Go on.

PHILO (*talking to both*).

I believe we have some points of view in common, for your profession needs to take note of many problems connected with both evolution and electricity. I have been a reader of general science for many years. The fact that on the earth we have had a slow evolution from a monad to a man contains a promise of further development of man into—let us say, angel.

BELLOWS.

Humph! Yes, go on.

PHILO.

In others of the many millions of globes about us in space, a similar evolution is going on, and in some the evolution is less advanced than in ours, in others incomparably more advanced.

BELLOWS.

Humph! (*Seymour listens intently*).

PHILO.

We have reached a stage when we have begun to peer out into the stellar depths and question them. We are beginning to master the light and the lightning, to measure the vastness of space, to weigh the suns, to determine the elements that comprise them, to talk and send messages thousands of miles without wires. Each year uncovers new wonders, X-rays, radium, the ions, the infinitely minute, the infinitely great. The dreams of the alchemists are being realized. That (*Bellows shrugs his shoulders, Seymour listens intently*) electro-scope yonder detects the waves from a millionth of a millionth of a milligram of radium. I have invented a tuned electroscope that would be destroyed by such waves, so sensitive as to react only to waves from an inconceivable distance, beyond 35,000,000 miles.—There it is again! two beats—then three—then two—then four—now it is over! (*Both doctors start up electrified by his exclamation and stare at him and his instrument. Then Bellows subsides into his chair with a smile and wink at the other. Seymour scratches his head thoughtfully and seriously and sits down also.*)

SEYMOUR (*to himself*).

Impossible! (*then aloud*) What was that you were saying? What do you see?

PHILO (*with great tension and suppressed excitement*)

Three weeks ago I made this instrument and ever since at regular intervals there have been these rhythmic flutterings of the gold leaf, regular repetitions, which you just saw, as if it were a knocking on the door of the earth from the eternal silences.

SEYMOUR (*a little shaken and fascinated*).

But I did not see anything; at least a slight movement in anything so sensitive might be due to so many causes. . . .

PHILO (*excitedly*).

Ah, yes, it is always the old story. Truths must be hammered into humanity, or branded in with flame or driven in with sword and bullet!

BELLOWS (*starting up alarmed*).

Doctor, I think we must be going; I have an engagement presently at my office. Good-by, Philo! (*opens door and passes out*).

SEYMOUR (*lingering*).

My boy, you must have rest from this work. You need sleep and a different regimen and a complete change of scene and air. This attic is gloomy and the atmosphere unhealthy. A change will help you and bring back color and stronger nerves. You have interested me vastly, but these subjects are too overwhelming for a sane brain to carry without harm.— Good-bye (*shakes hands and goes out*).

PHILO.

I had hopes of him; but the experiment is a failure. So this is to be the end! If I could not convince him, then all the world must think it hallucination.
[*Curtain falls.*]

SCENE III (*Dr. Bellows' consulting room. A low room with flowered paper and rag carpet. Two or three cane-seated chairs. One well-worn arm chair. A dusty flat top oak desk against the wall, with an oil lamp, some old medical books, a skull, instruments, assorted bottles and papers scattered upon it. A walnut cabinet with red curtains and ponderous volumes upon it. Some large books and medical journals on the floor. A leather sofa, a few prints of physicians on the wall.*)

[*Bellows and Seymour together as curtain rises.*]

SEYMOUR.

What did you tell me was his age?

BELLOWS.

Twenty. He was rather precocious and graduated early from college.

SEYMOUR.

The usual age (*musingly and with a sigh*). Twenty—the age of visions and enchantment. “The thoughts of youth are long, long thoughts.”

BELLOWS.

I beg your pardon, what did you say?

SEYMOUR.

Nothing. I was but thinking to myself. What of his family?

BELLOWS.

Best sort, the thoroughbreds of the town. You saw most of them. Temperate, saving, thriving in business, no foolishness, no insanity in the family, regular at church. The old man was once county supervisor. None better anywhere. I suppose you must see lots of queer people down in the city.

SEYMOUR.

I do meet tragedies every day.

BELLOWS.

Well, I don't envy you. I don't like them. None

of these mind-puzzles for me! Give me something clear cut—like a typhoid, or measles, or an amputation, or new babies, something I can fix my eyes on. They keep me busy even in this ever healthy community. And I like horses. I want you to look at my new mare when she takes you to the station. She's a beauty and——

SEYMOUR (*looking at his watch*).

Would it not be well to write out the statement?

BELLOWS.

Excuse me a moment, Doctor, I will fetch the commitment paper. [*Goes out.*]

SEYMOUR

(*rubbing his hand slowly over his forehead*).

To talk with such a patient sometimes bewilders the brain. He was so clear and rational in utterance, that I almost believed for a moment it was all true. It might be true. Perhaps we are all somnambulists moving about in this dream-world that we call practical life. Behind this tough matter that takes all shapes and colors, what strange secrets are hidden, just beginning to reach our dull senses, as X-rays, radium emanations and wireless waves! Under this tiny consciousness of ours lie vast fields of subconscious intelligence as yet unexplored. Beyond our earth are still greater mysteries, unimaginable, unthinkable. The boy may be right—and yet—and yet—how can I determine with my candle whether this be the genius of discovery or that strange thing called madness which no man has yet been able to define! It has been said that insanity is a deviation from the rule of thought and conduct laid down by the common sense of mankind. But

common sense is itself too frail and uncertain a thing to be a criterion. The common sense of yesterday is to-day's folly, and our present common sense will be the madness of to-morrow. All the great accomplishments of the world have been made by madmen. Yet, I suppose this young man must be sent to a retreat. It is clear that he is ill, and the burden of his knowledge, whether truth or delusion, is far too great for him to bear. He may be led to frenzy or possibly even self-destruction. It must be delusion—it can not be true.

[*Enter Bellows.*]

BELLOWS.

Here is the paper (*Seymour takes paper and begins writing*), and if we fill it out now I will have the judge's order so that he can go to-morrow. An interesting chap, eh? Well read and up to date, but just completely gone off. I could hardly restrain myself at times. He was so earnest and it was all so funny. I am sorry for the old folks.

SEYMOUR

(*seriously and coldly extending his hand*).

Bellows, I must catch my train, but before I go I want to say that I sometimes think the Mohammedans are right in believing that the insane have been blessed and consecrated by God, who has taken their souls up to himself and left only their fleshly tenements here.

[*Goes out and curtain falls. Bellows looks after him amazed.*]

SCENE IV. (*The barred window of an asylum at night looking out on a park of trees with water. The stars are shining brightly, and fireflies gleam at times in the misty air. Philo with his hands upon the bars gazes upwards at the sky and soliloquizes !*)

PHILO.

This is a bitter, bitter world. How many eager, soaring spirits, daring to climb and pierce the barriers between earth and heaven, have been beaten down, hemmed and caged in by the delirious mob or dull-witted multitude ! Here in the stillness and darkness, under the skies' star-embroidered roof, I seem to see the long line of dream-driven martyrs, seers of visions, clairvoyant oversouls, prophets of the old days and the new, born out of their due time, doomed by man's ignorance and vindictiveness to suffer by fire, by cross, by sword and prison bars. I seem to see them climbing still, out in the night among the mystic golden fires, climbing the crystal stairway upward to the Temple of Truth and Righteousness. They guard the sacred altar, keeping holy vigils in the blue dome above an eyeless, sleeping planet. They are forerunners of the slowly waking spirit of the world. Perhaps the time's not ripe for larger knowledge. Nature and the Divinity that guides her must protect their new evolving creatures from a too sudden revelation, lest they should perish from sheer wonder. Perhaps 'twere better that the lonely seer should mask his truths as poet-phantasy or fairy dream rather than shatter with too sudden splendor the young unready man-child's brain. Should all be known, even this little truth of mine, might not the mighty stir work havoc in the dormant chrysalis and stay forever the charmed gift of wings ? Even so !

Let me trust in Nature, and accept my fate, no more
rebellious to her wise though dread decrees. She
drops me here, but I have heard the far, far music, and
the Divine whispers have reached at last a mortal ear.

*[Curtain falls as he looks with rapt expression out
upon the sky.]*



CAROLI SPONII

Musculorum Microcosmi Origo & Insertio.

PRÆLUDIUM.

Nunc me cura coquit, metris
Mandandi Lyricis nobilibus uelot.
Nimirum usque sua trahant,
Quid Musculi origine,
Nec non quas soleant deponere in plagas.
Ut cauda hunc uirum ac caput
Ipsorum patiant, quæ peragunt suos
Mittit, dum rapit illud hanc
Ad se, quomodo sit uisibus arbitri
Oculis paruum. Præsumque à capite carni-
bus erior.

I. MUSCULI OCCIPITALES.

Eius occipitalibus
Assit, quæ apuere auriumque rectè à

Orbita comodat Occiput,
Ossis quæ medium conijcitur latus:
Fines auricula accubant,
Lino ad frontis eunt usque laceriulos.

II. MUSCULI FRONTALES.

Frontales duo prodeunt
Osse ex bregmatico, quæ cutis bipida
Primores parit antea,
Mæta ipsi posita ad summam supercili.

III. MUSCULI PALPEBRALES.

Musculus vigil opora qui resonat lumina
Atque diadus, supernam quippe palpebram at-
gens.
Orbitæ eximo suboritur, apsidem summam petit
Ipsius traxit, à Superbo non procul laceriulo.

Clausor

“When Apollo Strikes The Lyre.”

A STUDY OF THE CANTICLES OF THE OLD ANATOMISTS.

BY CHARLES L. DANA, M.D.

INTRODUCTORY.

In the middle of the 17th century, a certain Dr. Carolus Sponius, Physician to Louis XIV and celebrated throughout Europe, wrote a book of verse in which he described in hexameters the origin and insertion of the muscles of the human body. In a preface to this work, the learned editor says :

“It is well known (*lippis et tonsoribus notum est*) that Apollo was the God of Medicine, but also the President of Parnassus.” “And so,” the editor adds, “it is no wonder that in later ages many of the Children of Medicine, aflated with the divine fire, tried to express the mysteries of their art in verse and to contribute to the world their salutary songs. There was Aemilius Macer, who sang of the virtues of plants, and Serenus Samonicus, who told in the same way of all the diseases of the body ; and there have been many others.” “It is not possible,” he continues, “that those chosen ones would have tortured themselves to form their language into verse if it had not been an easier and happier way than to have put it in prose. For it is admitted that facts are more easily retained if put in a poetic form.”

It was probably for these last reasons that Dr. Carolus Sponius wrote his famous “Myologia,” an

heroic song, in which he describes and gives the action of all the muscles of the body, "430 on one side alone," he says, "and just the same number in man as in woman." The composition occupied him many years and when it was finished he died, not from his poem but from old age, for he was just eighty. His work was widely appreciated and is embalmed in the monumental pages of the *Bibliotheca Anatomica* of Magnetus.

Medicine and Parnassus.—The tendency of the "Children of Apollo" (as the doctors use to call themselves) to publish their work in the form of verse was perhaps also favored by the fact that in early days it was believed that great truths came through the poet's inspiration and must have poetic form. The philosophy of Parmenides and that of Empedocles, one of the fathers of medicine, were in heroic verse; so was some of that of Pythagorus, and all of that of Lucretius, in whose *De rei natura* latin poetry and didactics are at their highest mark.

Later on, in the Middle Ages, poetic measures were popular, the hexameter as well as a kind of semi-rhyming verse called "leonine" being much used in medical and devotional writing; especially was the work of the School of Salernum transmitted in these forms.

Five important books of this type have been handed down to us: 1. The *Hortulus*, of Strabo. 2. The *Carmina*, of Aegidius. 3. The *Regimen Sanitatis Salerni*. 4. The *De Virtubus Herbarum*, of Macer. 5. The *De Re Medica*, of Serenus Samonicus. They were popular handbooks for centuries, all having many codices and printed editions running as late as the 19th century, and thus entitling them to be called classics. The poems tell the story of the customs and

methods of medicine in these early days and form together a group of Folk-Songs of the Medical Art.

The Renaissance Anatomists and Physicians.—At the beginning of the sixteenth century, many of the great universities of Europe had been established, and for three centuries they worked with a solidarity of learned effort such as we do not have and can not easily appreciate to-day. They were bound together by a common tongue and a common purpose; they were a kind of University Trust, which held the acquirement and diffusion of knowledge under its control. The pupils traveled from one school to another, and the professors studied or taught in several places during the progress of their careers. The eminent men were known to each other, exchanging visits and compliments and mutual courtesies.

It does not take long to get fairly familiar with the prominent names in anatomy in these years. At Padua there were Vesalius, Columbus, Fallopius, Fabricius, Julius Casser and Spiegel; later Sanctorius and Scarpa. At Paris were Jacob Sylvius and Vidus Vidius. At Bologna, Achilles, Carpus and Rota. And there were as many others, at Basel, Tübingen, Pisa, Leyden, Amsterdam, Brussels, Nüremberg, London and Edinburgh.

Closely allied with their activities was that of the learned physicians, such as Gunther, Fuchs, Harvey, Gesner, Ramuzzini, Lancisi, Sanctorius and Sydenham. These comparatively few men made the medical history of those three centuries; working in coöperation or conflict, and publishing their volumes almost always in the latin tongue.

With this rather necessary introduction, which I

make in order to establish something of a background, I pass to a consideration of a phase of Apollonic activity which has not, I think, been studied before. It does not perhaps really deserve study at all, but I will make my apologies later.

THE CANTICLES OF THE ANCIENT ANATOMISTS.

From the beginning of the sixteenth century till the end of the eighteenth, the work of the great anatomists and physicians of Italy and Europe generally, was punctuated with song. When a distinguished professor died, tributes of verse were recited or printed in his honor. If he had a festal day, or achieved some special honor, or wrote a book and sent it to the world, verses were sent to him by admiring friends and pupils from all parts of Europe. The great men themselves did not disdain to build the modest rhyme. Lancisi interspersed his discussion of the plague with a Latin Eclogue; Ramuzzini wrote a verse on the opening of Lancisi's library; Fabricius sent a verse in praise of Conrad Gesner; Vesalius wrote a poem "to the candid reader" of one of his works, and Jacobus Sylvius attacked Vesalius in meter.

Sometimes the poetry was of a general and apologetic kind; thus: A certain John Antonius Tagetus wrote a *Carmen* addressed to the ghosts of the gentlemen whose remains had been dissected by Fabricius of Aquapendente. He congratulates these gentlemen on their good fortune on having been dissected by such a master of the art, and assures them that Fabricius has taken proper care of their remains and attended to the repose of their souls. It was the custom, in fact,

after a public dissection to adjourn and have prayers offered on behalf of the deceased.

Spigelius, who followed Casser at Padua and was the last great anatomist of that school for many years, had a whole "Funiculus" of songs, contributed to encourage him in his work. They came from pupils in England, Scotland, Germany, Belgium, Greece and Italy.

The custom did not disappear, even if it abated, until the beginning of the nineteenth century. At that time, Antonio Scarpa, Professor in Padua, received the tribute of twenty-five latin verses in praise of his character and worth, written by his various pupils and friends.

England was a little late in time, but not behind as to the amount of its melodious labor. I have found long poems addressed to Harvey, on the circulation of blood, and others by a noted medical poet in memoriam of Thomas Sydenham and John Radcliffe, for all whom we are assured a nation wept,—*secundum artem musae*. Even in Holland and Germany the Muse was not neglected; and France offers us the heroic song of the muscular system by the melodiously named Carolus Sponius.

A collection of these three centuries of songs would make a curious work; it would be an anthology of personal tribute, of dexterous praise and high eulogium, illustrating ingenious management of latin meters and superlatives. There would not be found in it much real poetry, but there could be entertaining experiments in epigrammatic expression, and a surprising vocabulary of words adapted to setting off the qualities of the exalted ones; also many curious devices

in versification. Thus one ingenious writer tells the story of the life of Gunther in the form of an epic with episodes and climaxes in fine literary form ; another writes an obituary poem of four pages in alliteration, every word beginning with "M." Still another writes an eclogue and brings in a shepherd, a wandering traveler and a farmer who recites the tragedy of the death of the celebrated deceased. Most of the verse is in latin, but occasionally an especially erudite pupil does his work in Greek.

While these various poems do not take high rank as works of art, still they have a great deal higher literary value than the conventional "resolutions" passed by moderns to signify respect for a deceased and distinguished brother ; and they have a greater value than the conventional tributes of praise offered at our modern functions. They had to be in correct form, and latin especially lends itself to fine inscriptive writing and to forcible eulogium without seeming inane. "Eruditimus," "doctissimus," "perillustris" seem appropriate enough words for even a conventional celebrity. But besides the eulogia and epigrams there were songs of occasions which had more than just negative merit. They often give us a clue to the person's character and accomplishments, as well as to his attainments in physic. They furnish some quaint, ingenious and helpful forms of expression. They enrich the vocabulary of pertinent praise, of sincere sorrow and real regret. They should furnish us moderns a storehouse for complimentary interchange of this character.

There is an art which is, so to say, decorative only, *i. e.*, depending for its effect on the surroundings of the place it occupies ; independently perhaps it has no

great merit. So the old Elizabeth poets wrote poems which were beautiful because they were meant to be sung. So the old Italian primitives painted things which looked well upon certain walls,—not great poems or great paintings, but effective in their places. In the same way these old writers of conventional verse, these poetic primitives, wrote eulogies, obituaries, odes, eclogues, which had merit in their place. They gave an uplifting touch to the candidate's thesis, to the professor's *Opus Magnum*, to the ceremony of the Jubilee, or the memorial service. And they should be judged only in connection with their environment and atmosphere. They gave a sort of distinction to the men and the work of the day, and so I think one may be forgiven for spending a little time on these primitives now.

The custom of writing these verses of occasion has died out, first, because of the general disuse of the latin tongue, a language in which it was easy to write conventional verses and possible to write fine ones; a language which bound together scholars in a fraternity of learning, and enabled pupils and friends in different countries to contribute their metrical compliments and eulogia to the common master in a common tongue. It made the publication of a book, the acceptance of a professorship, the celebration of a jubilee, the passing of a friend, a more serious and impressive occasion than it is at the present day. There is no more beautiful memorial of a public accession to office than the volume containing the oration by Dr. Pauw and the two poems following it, all commemorating his predecessor's genius and placing before him the ideals he is to strive for and the responsibility his position involves.

We shall, of course, never return to this kind of formalism in our work or professional relations. The drift is the other way. To get the best and do the best and in the result proclaim our work, is our method. Yet I can not but think there should be and may yet be a closer joining of the higher letters with the working of science. It seems surely a desirable thing that men be not so technical that they can not enjoy the aesthetic side of life, and it is likely that they will have a better scientific imagination if they indulge their sensibilities a little.

The learned world has dropped its latin without having picked up Esperanto ; it has given up most of its formal functions. But perhaps Apollo may again graciously stretch his bow and strike his lyre while the the Sons of Medicine rejoice that life is not all study and experimentation and work, but also an outlook into the eternal blue.

Having such ideals, I have translated part or the whole of various ancient "canticles," and propose to add them as a supplementary protocol of my experimental studies of the Muse of Medicine.

LAURENTIUS, 1586.

The various forms of poetic tribute and expression were published, not only in the first part of the books on anatomy, or medicine, but were often collected and published in small pamphlets, printed just as is done to-day, for the purpose of commemorating certain services of an author, or some festive occasion.

Thus, Laurentius, who was an anatomist of note in the sixteenth century, came from his University in France, and delivered a series of public lectures on

COLLAUDATIO
MORTVORVM
QVORVM ANATOMEN

publicè professus est Patauij

Perillustri, & Excellentissimus

IVLIVS CASSERIVS
PLACENTIVS

Doctor Medicinæ, Eques D. Marci, & Chirurgiæ in Ce
leberrimo Gymnasio Patauino Professor Publicus,

Dum Funus honorificentissimè fieret.

Habita à D. Bartholomæo Franzina Patauino.

In Templo **SERVITARVM.**

Anno 1614. Mense Martij die Octauo.



PATAVII, M.DC.XIV.

Typis Laurentij Pasquati, Impress. Camer.



anatomy, in Venice. These were very popular, and he had to repeat them in Padua. When he had finished, a booklet of verse, which had been written in praise of his work, was published (1586).



LAURENTIUS

CASSERIUS, 1620.

The Jubilee of Julius Casser, Professor of Anatomy in Padua, was another occasion for much declamation and song. Casser worked and taught anatomy at Padua, under the great Fabricus, but he was not appointed professor until rather late in life; and he had not been long an occupant of the Chair when his 70th jubilee took place. A well printed booklet containing the literary work provided for that occasion was then published, and it has in it an eloquent article on the "Praise of the Dead who had been Dissected by Casser," (Padua, 1620), as well as many songs in praise of Julius Casser: "Te Anatomicorum vere, Cæsar."

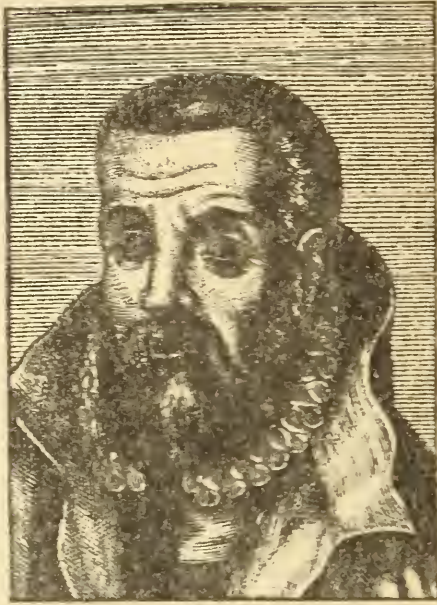


JULIUS CASSERIUS

GUNTHER, 1575

When the great physician Gunther, teacher of Vesalius, died in 1575, there was an especially acute outburst of obituary verse and eulogistic poetry. A book entitled "Carmina Complura in Obitum ejus Conscripta," 1566 ("Many Songs Written on the

Death of Gunther") contains twenty odes, and in addition to these an heroic song, which tells the history of Gunther's life and character. This poem has the methods of a thesis, as well as of artistic verse. And the poet trips along, telling the events of Gunther's life, with side-headings indicating the order of the happenings. Most of these old physicians were appar-



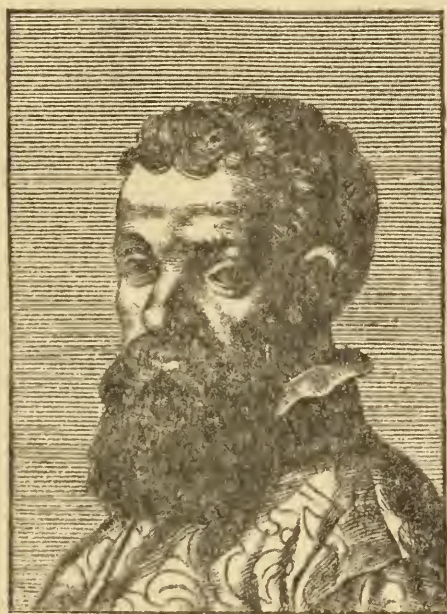
JOH. GUNTHERIUS

ently very pleasant people. *Lepor* was the physician's especially frequent qualification. Gunther was "pleasant in speech and affable to everyone." "All quarrels, annoying envy, discord, wars,—these all fled from his harmonious mind; and a gentle love of peace consoled him." So the poet puts it.

VESALIUS, 1539.

Vesalius was the writer of a poem himself, and a cause of poetry in others. Born January 11th, 1515, he led a strenuous life, having been made professor of

anatomy at the age of twenty-two, and having begun to publish works of various kinds at the age of twenty-three or twenty-four. In 1534 he had finished his anatomical studies at Paris and Loew (Louvain), and in that year entered the army of Charles V. as surgeon. In 1537, when twenty-three, he went to Basel for his doctorate's degree. A year later appeared his first anatomical work, his "Six Tables," 1538, Venice. In this year he was called to the Chair of Anatomy, at



ANDREAS VESALIUS

Padua, and from that time to 1543, when his complete work appeared, he made his most extensive studies. At the beginning of his career, in Italy, he wrote an epistle to the most distinguished and illustrious Nicolas Florentinus, "the most skilful physician to the most unconquerable Carolus Caesar." This work was published at Basel in 1539. The epistle is de-

voted to showing that the axillary vein of the right arm is to be cut for pain in the side, "and thus the melancholy juice coming from the pertaining branches of the portal vein will be purged away." "Epistola docens venam axillarem dextra cubiti in dolore laterale," etc. This treatise,—for it is quite long,—is accompanied with cuts showing the relation of the veins of the arm and thorax. Vesalius writes a preliminary poem *ad Candidum Lectorem*. It seems to me

to be in execrable latin ; it is certainly very difficult reading ; but it is not academic, and is almost the only "*ad lectorem*" that seems to have a human touch.

POEM OF ANDREAS VESALIUS.

To the Candid Reader of the Epistle to Florentinus.

"Snatched from the nets, with assured health, I am permitted to be among suffering mortals. Doubtless, at first, the atrocious Tempest of Envy discouraged me, for indeed how much that is accustomed to hamper one? But at last, God willing, I broke the bonds and my works are to be read in public.

"Do thou now, O, Lover of the Muses, take up this fruitful labor, and carry on with cheerful brow the pious task ; Nor despise secretly those growing forces which after our slender efforts will produce better things."

The final lines in latin are :

Tu modo frugiferum Philomusae capesse laborem,
Conatusque hilari suscipe fronte pios.
Crescentes at penitus ne dispice vegeta vires,
Post tenues orsus quae meliora dabunt.



IACOBUS SYLVIUS
Regius Lutetia Professor

J. SYLVIUS, 1551.

Jacob Sylvius was Professor of Anatomy at Paris and one of Vesalius's teachers when he was in that city. He was an important man but not the Sylvius of the fissure. After the success of Vesalius's work, Sylvius attacked him in prose and verse. His verse contains the following amenity (1551):

JACOB SYLVIUS

Has erected this trophy
To the Shades of Hippocrates and Galen.

O, you high Gods of the Elysian Circle,
Cease to be disturbed in your minds
Because a Vesanic calumniator
Has so greatly slandered you with his abominable speech,
Go add this deserter bound to your other triumphs.
Behold my piety chants this song to you ;
Take the prize in your hilarious hands.
Now, now, sport again in your blessed homes,
And celebrate the praise of Phoebus
And the perennial health of men.

This attack on Vesalius is offset by many verses and epigrams, which put Vesalius in quite the opposite light. Thus, Paulus Eberus in 1552 writes in verse praising the anatomist :

TO THE ANATOMY OF VESALIUS.

“Just as Luna is accustomed at night, when she has covered the world of her brother Apollo with her light, to vanquish other stars ;

“So this book of Vesalius passes ahead of all others, teaching by its art where each hidden part of the body lies.”

BAROLITANUS, 1535.

The advertisement of the Golden Booklet of lithotomy by the Most Eminent Doctor Marianus Sancho Barolitanus (Venice, 1535), illustrates the type of eulogistic advertisement quite often put at the beginning of a work esteemed important. This small book, which the author calls a “*Golden Booklet*,” with cuts of the author’s instruments, is preceded by a poem “To the Reader,” by Marcellus Pallengenius Stallatus, who evidently had himself been successfully cut :

TO THE GOLDEN BOOKLET.

"Thou who needest relief from suffering
 And wishest a stone to be taken from the bladder
 And kidneys, behold the Book ! the Book behold !
 Which will relieve thee and without
 Delay restore thee to thy accustomed gladness."

"Not only through us but through others
 Fame shall sing of thee who
 Hast helped so many."

"Quem prudens lector mercare et perlege, habebis
 Ingentes parvo divitias pretio."

"Buy this, prudent reader, and read it through,
 and you shall have huge riches for a little sum."

BERENGARIUS CARPUS, 1523.

Mundinus and his "Anatomy" had been the main guide for students for two hundred years. Perhaps he was falling a little into disrepute as time went by. At any rate, early in the 16th century, Berengarius, or Carpus, as he was called, Professor at Bologna, published a Commentary on the Anatomy of Mundinus. Carpus was a teacher of anatomy and surgery; he gave mercury for syphilis, and was so successful, says Cellini, that he did not dare to appear on the streets. He made some dissections and was the first to print cuts directly from life (and first, I think, to use the word "neuron" for nerves). His book, published in 1523 at Venice, gave him much fame and was accompanied by much poetic ornamentation. At the end of the anatomical descriptions of the extremities, there is appended a metrical dialogue between Pluto and Harpagus, which is a most ingenious contribution to anatomical mnemonics.

The scene is the lower regions, to which Harpagus has just come. Pluto begins by asking Harpagus (who has been skilfully dissected by Carpus) how he happens to get to his domain so badly cut up and in so many irregular and unpleasant detachments, as it were. Thereupon Harpagus explains how he has been dissected and shows Pluto the different parts of his anatomy as they lie detached before him. He incidentally gives valuable information to the god and furnishes a sketch for a dissector's manual. The idea would be worth trying to-day.

ACHILLES, 1523



ACHILLES

Magnus Alexander Achilles was celebrated in his day as an anatomist who made some dissections and is said to have discovered the small bones of the ear. He was a learned man, and was celebrated as an anatomist, a philosopher and disputant. He lived from 1463 to 1512. His book on anatomy is a small one, with no illustrations, as I remember. It was pub-

lished at Bologna in 1523 by his brother. On the first page is a picture of Achilles, and under it a verse by Hannabel Camillus, a disciple of medicine, to the reader. It is evidently written by a medical student and is one of the earliest of the introductory verses

that became later so much in vogue. He follows his *ad lectorem* with a distich.

"Let the studious band which wishes to know of the parts that make up the mass of the human body, turn over the pages of Achilles night and day. Nor let them think it at all too exiguous; for whatever of excellence God has created in the whole earth, man conceals the littler thing in the small." (Parvulus in parva.)

Congeriem Studiosa cohors fabricantra nosce
Corporis humani sermone qua velit,
Verset Achilleum nocteque diesque volumen,
Quod quamvis exiguum ne tamen esse putet,
Quidquae enim eximini toto Deus orbe creavit
Parvulus in parva molle recondit homo.

FUCHS, 1566



LEONHARDUS FUCHSIUS

In 1566 a memorial service was held in honor of Leonhart Fuchs, Professor of Medicine, at Tübingen. The memorial oration on this occasion was followed by various long and short "songs of the learned" (*Carmina Doctorum*), among which was a "sorrowful eclogue," which is a triumph of alliteration. The author, Dr. Erhardus Cellius, wrote six pages of verses

all beginning with M. It is called the "Ecloga Lugu-bris" or Sorrowful Eclogue and Medical Monody of Erhardus Cellius on the Death of Leonhart Fuchs. He begins :

"Moesta Machaonia modulamina mittite musae
Maeonides, medico mittite metra meo
Maere Musarum moderator maxime, moe
Moeroris multum, maestitiaequae move."

"Pour out to me sad Machaonian measures,
Pour out Maeonian strains to my dead physician,
Bewail sadly, Master of the Muses, for me ;
Arouse me to sorrow and sadness."

Of Fuchs' character, he says :

"Show me in restrained modulations his habits, O Muse, and
minutely display his manners."

Mores, musa, mei medico modulamine monstra,
Monstrato mentam, musa, minula mihi.

Fuchs mingles the gifts of medicine with those of
the Muses ; "he was most unhostile to wisdom and not
hateful of beauty."

Miscuerat multis medicinae munera Musis ;
Misosophus minime, misokalusque minus.

The poet returns often to his first refrain :

"Moesta Machaonia modulamina mittite Musae."



VIEUSSENS

VIEUSSENS, 1700

Raymond Vieussens (1641-1720) was a French anatomist, whose life and works Dr. B. Sachs has described elsewhere in this volume. His book on the anatomy of the nervous system is introduced by an Ode and various minor verses. A reproduction of two pages shows the

way in which such works were heralded even as late as the eighteenth century.

*To Vieussens, of the Academy, Doctor of Medicine at Montpellier,
and new describer of the Human Brain.*

A bold Columbus, he penetrated shores unknown to ancient ships
And regions of the earth not before explored,
Sailing among the rocks and quicksands of the sea.
Through this brave voyage he prepared
Great honor for himself ; Europe
Has placed his name forever in its annals,
And our descendants will revere it for all time.

What reward do you hope for yourself, Vieussens ?
Look around this little earth and see
Of what crown you consider yourself worthy
Because you have described the brain so clearly.
You observed, with the eye of Lynceus,
The nerves flowing from their roots through the limbs,
And you saw fibres never discovered by the eyes of the ancients.
Dedalean Nature formed the vital tissues into intricate folds ;
Here lie a thousand wonders and paths
Where error and mistake are easy.
But you never err, nor with lubricious foot
Ever offend.—Singularly perspicacious !
You see in the dark, and, an acute observer,
Walk safely in deepest gloom.
The wise Willis formerly traveled in the same path,
Not without glory.
Happy traveler, you, concerning whom throughout the ages
Fame, ever mindful, will address the people.

By no means shall this toilsome work punish you ; for
ten years you were bringing into light the intricate
structure of the Brain ; but through this work, Vieussens,
you secure for yourself an immortality of years.



H. FABRICIUS

FABRICIUS, 1570

Fabricius of Aquapendente (1537-1616) was professor of anatomy at Padua, teacher of Harvey and discoverer of the valves of the veins. In his book, *De Visione*, etc. (Padua, 1600), a page is given to the couplet:

“Martia, Fabricio jactat nomine Roma
Pendula Fabricius se tu quoque gignis aqua.”
“The city of Mars boasts of the name of Fabricius ;—
Thou also, Aquapendente, gave us Fabricii.”

Fabricius was a famous dissector in those days, and this carried with it an opprobrium, for it was a practice not altogether approved. Fabricius had a pupil at Padua named John Antonius, Taygetus who was given to poetry. He wrote “A Song to the Ghosts of Cinalia and De Hortus,” whose bodies were dissected in Padua under the direction of Fabricius (Padua, 1570). We do not know of any more pleasing or eloquent defense of grave-robbery and dissection than Taygetus has given us :

THE SONG OF TAYGETUS.

"O pleasant spirit and aetherial breath of freshly spoliated Man, Ghosts, who perceive your organs dissected by wonderful methods and your limbs separated and incised and who lament the lost honor of a tomb. If we have dragged you from the pleasant recess of your merited sepulchre and irreverently disturbed your wished for quiet beside the sacred streams of Erebus and the deep night, remember that the medical art, which we pursue with a great love, difficult, fallacious, longer than human life compels us often, unwilling, to purloin the lifeless bodies and then to scrutinize in them all the parts of man.

"Why do you look at us thus, O Ghost? Why do you watch us with a gloomy face? Can there be so great wrath among the pale shades? Be it that we have snatched you from the broken sepulchre."

"You were not murdered—but succumbed to years.

"You have paid tribute to Fabricius, the interpreter of wisdom whom great Apollo nourished and made distinguished in medical skill. Fabricius eminent before all in piety and in golden manners."

"He has put flowers on your tomb and offered prayers and confesses his duty to your ashes (*vestro cinero debere fatetur*)."

The Visualization of History.

BY GEORGE LINCOLN WALTON, M.D.

To the favored one who can remember dates, persons and events without artificial aid this method will not appeal. That many are otherwise endowed attest the numerous nonsense jingles made for the young and taken over by the old. No one scoffs at "William the Conqueror, then William, his son," but for every one who can continue these verses there are forty who "knew the rest but have forgotten them." Not that the auditory mnemonic should be altogether abandoned—one such, in fact, will be here presented after the semicircular plan of fixing facts.

It was Charcot, I believe, who divided the world into *visuels* and *auditifs*, and there was doubtless something in this suggestion, but in most people the dominance of either faculty must vary somewhat also with habit, with association and with method of instruction. At all events, it seems worth while to make use of both the visual and the auditory methods even though the one is used, because in this direction we are apt, and the other because in that we need the practice.

It is difficult to find a unit of measurement for comparing sight and sound as aid to memory. Sound memories, like taste and smell memories, carry, perhaps, a higher grade of emotional stimulus than sight memories, but it does not follow that they can be

themselves more easily recalled. I dare say others are haunted, like myself, by vague olfactory memories of the attics of my childhood—to catch one of these odors now might stir my feelings deeper than the presentation of any visual object—but I can revisualize at will the broken rocking-horse and the spinning wheel. Can I replace the odor? Alas, no, nor the taste of the gingerbread, though I have often practised on it since. The sound of the mouth-organ I can faintly reproduce, it is true, but not with ease the tunes I played upon it. There are doubtless those who can remember the tune as well as the rocking-horse, but even such may benefit by establishing a *habitat* for historical data.

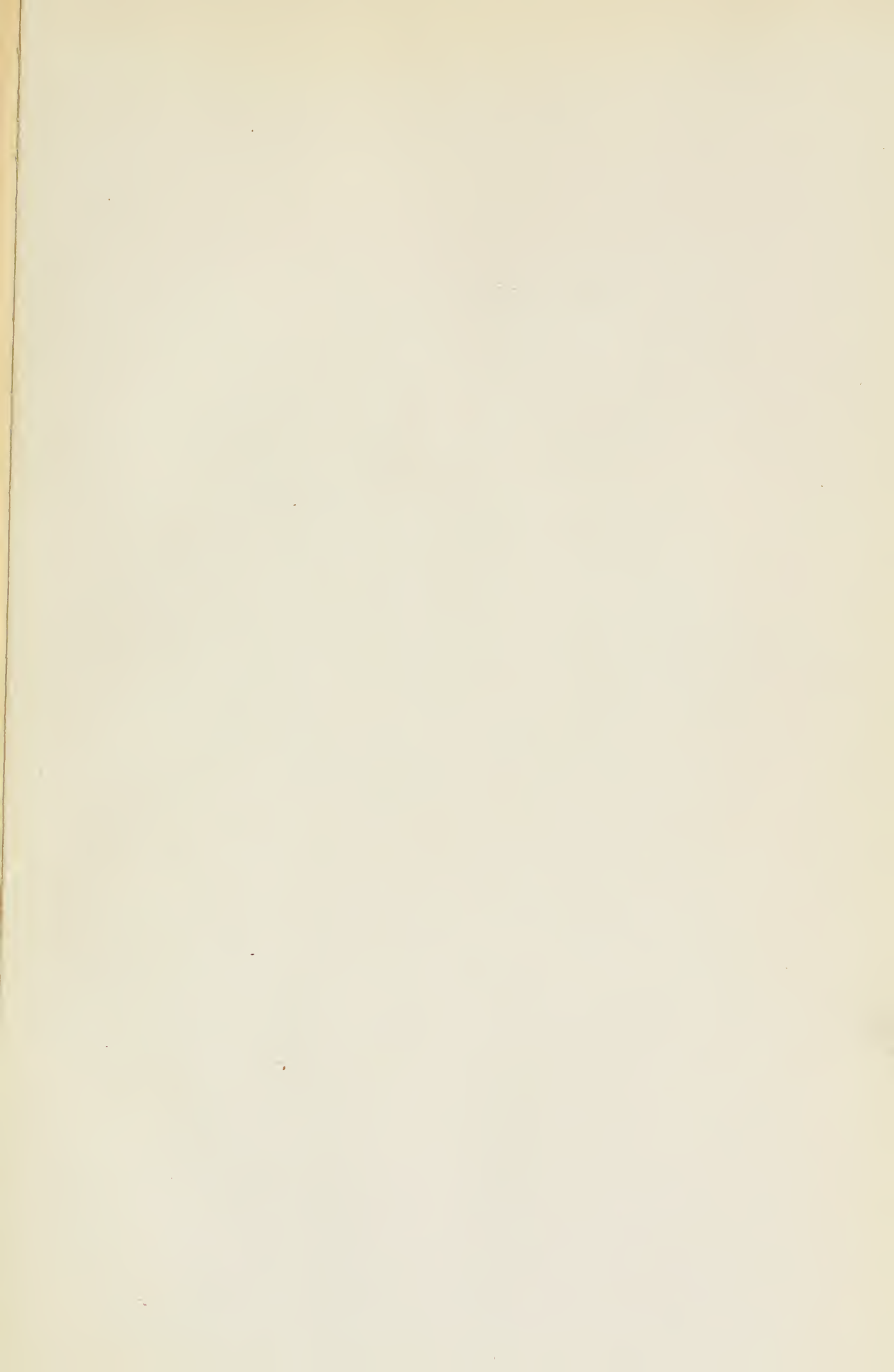
The advantages of the circular system over the use of straight lines are :

1. Every point in the line differs from every other point.
2. Freshly acquired items, properly placed on the curve, tend to fix, rather than to obliterate, those already there.
3. A circular line may be made to cover a space of time impossible to compress upon a straight one of available length.

The first of the specimen diagrams presented carries (inside the curve) Creasy's "Decisive Battles of the World," the second records the date (generally the birth) of leading characters in medical history. Those without known date are approximately placed. The semicircle above the horizontal line includes the time since Christ, its continuation below records the time before his birth. The items in these particular diagrams are limited to 500 years B. C., but the line may be continued in a spiral, say, to the time of Menes.

I
DECISIVE BATTLES





II

MEDICAL HISTORY



Important epochs are indicated outside the curved line, thus: *Greek* influence, paramount until the final subjugation of Greece by Philip of Macedon; Graeco-Macedonian or *Hellenistic* period, from this time to the establishment of the Roman arms in Greece; * Supremacy of the *Roman Republic*, from the first Punic War to the accession of Augustus; *Roman Empire*, from this time until the Triumph of Odoacer; *Arabian* influence, from the time of the Hegira; *Norman Kings* (overlapped by the *Crusades*); *One Hundred Years' War*; *Modern History*, dated by Ploetz from the discovery of America.

If any newly acquired bit of historical or biological information is put at once in its appropriate place upon such a diagram, a long step has been taken toward its fixation in the mind, either of the *visuel* or the *auditif*.

Following the diagrams an auditory mnemonic is presented in the form of a nonsense rhyme to further fix the dates and salient features of the decisive battles.

THE DECISIVE BATTLES

DONE IN DOGGEREL

By G. L. W.

BATTLE OF MARATHON.

Six thousand were slain on the Marathon plain,—
 They were led to defeat for Darius.
 I have heard it averred that the Spartans concurred,
 But tarried because they were pious.
 If Themistocles and Miltiades
 And Aristides that incursion
 Had not brought to a halt, unless I'm at fault,
 Greek culture 'd have been largely Persian.

* Some date this period from the death of Alexander, 323 B. C.

BATTLE OF SYRACUSE.

B. C. four thirteen, it was easily seen,
 That the fortunes of Athens were falling.
 So they said "What's the use, let's attack Syracuse,
 And give it an overhauling."
 They set sail under Nicias, and I am suspicious,
 That if some of those Peloponnesians
 Hadn't got in the way, with Gylippus that day,
 Italians would now have been Grecians.

BATTLE OF ARBELA.

In three thirty-two Alexander pushed through
 Tyre, Tarsus, Damascus and Issus, --
 In three twenty-nine the going was fine
 And he punished the cowardly Bissus.*
 If Darius, the Great, had not met his fate
 At Arbela in three thirty-one,
 The Shah of to-day might be looking this way,
 And that wouldn't be any fun.

BATTLE OF METAURUS.

A bolt from heaven (B. C. two aught seven),
 Was hurled by the COUNSUL Nero,
 And Hannibal stock, hitherto like rock,
 Went promptly down to zero. 19
 When Hasdrubal's head was thrown into his bed,
 It was like a football interference,
 And Nero must divvy the honor with Livy
 That this was his final appearance.

* If so ancient a spirit is still extant, that of Bessus will perhaps accept this mutilation of his name for the exigency of rhyme as partial atonement for his assassination of Darius.

BATTLE OF ARMINIUS.

Historians agree, that in nine A. D.

If Varus had conquered Herman,
Our William the Second would have to be reckoned
As something quite different from German.
With modified power he'd live in a tower
(Or a villa) alongside the Po,
For Schiller read Dante, for beer drink Chianti,
And that would be funny, you know.

BATTLE OF CHALONS.

At Chalons-sur-Marne it is not any yarn
That Aetius proved quite a rattler,
For in that very spot where the Prussians were hot,
After McMahan, he subdued Att'la.
If the insolent Hun in four fifty-one
Had demolished the Roman legion,
That scourge of the world with his banners unfurled
Might have Hunnycombed that entire region.

BATTLE OF TOURS.

If Abdul-Rahman had been a Brahmin
Instead of a Moor, I bet,
He'd have harbored the thot of remaining if not
The suggestion of being there yet.
Just long enough he stopped to stuff
The pockets of his pants,
When Charles Martel upon him fell
And drove him out of France.

BATTLE OF HASTINGS.

Ten sixty-six is a date you must fix,
For it altered the whole constitution,—
One Harold the Sax, with a big battle axe,
Did marvellous execution,
But Willie the Norm was in excellent form,
As they fought at the battle of Hastings,
And he sewed him up tight, with a fiendish delight,
And then took a knot in the bastings.

THE CHARAKA CLUB

BATTLE OF ORLEANS.

When Bedford essayed, with Burgundy's aid,
To settle the course of events,
In fourteen twenty-nine, Charles the Seventh, supine,
Resembled about thirty cents.
Jeanne d'Arc, paranoid, tried the method of Freud,
And ran through the enemy's ranks,
Though at last canonized, and her favor much prized,
She got at the time little thanks.

SPANISH ARMADA.

King Philip Two was mad clean through
When Elizabeth quietly dropped him,
And if Drake had been late in fifteen eighty-eight
No navy on earth could have stopped him.
This bold buccaneer with an insolent sneer,
Dom Pedro de Valdez laid into,
What would have befell, had he not done so well,
You may guess,—I cannot begin to.

BATTLE OF BLENHEIM.

If Louis Quatorze hadn't gone to the wars
With Leopold One his objective,
French influence broad, with the world overawed,
Had been awkward as well as effective.
But Marlborough keen, with Savoy's Prince Eugene,
Knew exactly what they had to do,
And showed him once more (in seventeen four)
That nothing is done till its through.

BATTLE OF POLTOVA (POLTOWA).

The arrogant Swede was a broken reed
At the battle of Poltova,
For Peter the Great was insatiate
And rather a fighter moreover.
In seventeen nine the plans were in line,
And had Charlie accomplished his aims,
There's a bare possibility he'd had the fertility
To make the Pretender King James.

BATTLE OF SARATOGA.

In October seven, seventeen double seven,
Burgoyne surrendered to Gates,
Who was far from contented till Howe was prevented
In this way from joining his mates.
Had this not occurred, I have heard it averred,
That the country called United States
Would have swallowed the wrong of a tax on Oolong,
And be ruled by outside potentates.

BATTLE OF VALMY.

The allies pushed through (seventeen ninety-two),
When Kellerman met them at Valmy.
With Carmagnols tough he gave them enough
And made Mr. Brunswick feel qualmy.
The philosopher Goethe put on a red shirty
And was there when Dumouriez dinged 'em,
If Condé and his friends had accomplished their ends
The republic would now be a kingdom.

BATTLE OF WATERLOO.

By Napoleon 'twas seen, in June eighteen-fifteen,
That if Grouchy could gobble up Blucher,
With him in a pen, he could rally and then
The Englishmen easily butcher.
But this did not work, Grouchy managed to shirk,
And on Thielman his talents exhaust.
'Twould have been even worse than tetrameter verse,
Had Wellington Waterloo lost.

Surgical Manners and Customs in the Times of Henry de Mondeville.

BY ARPAD G. GERSTER, M.D.

Although de Mondeville is often and honorably mentioned in the work of his pupil, Guy de Chauliac, his writings, preserved in the shape of numerous manuscripts in various archives and libraries of Europe, had not seen daylight in printed form until 1892, when Dr. T. L. Pagel published the original latin text, as it mainly appears in the first of the four complete manuscripts of the Bibliothèque Nationale of Paris (No. 1487). It seems strange that six hundred years had to pass between the writing of the text of this meritorious and original surgery and its reproduction by the printing press. The year 1893 saw the publication of the excellent translation into French by E. Nicaise, the work being issued under the auspices of the "Ministère de l'instruction publique," in a suitable and dignified form, containing a most interesting and valuable introduction in ten chapters and eighty-three pages, which embody all the historical, biographical and bibliographical material concerning our author available at the present time.

Of the life of de Mondeville, though a number of authors—Marchand, Malgaigne, Chéreau and Littré—have written about it, little is known that is authentic. Even the year of his birth and that of his death are

uncertain. His best biography is his own text, in which are to be found the few precise data of his life known to us, and from the pages of which it is not difficult to reconstruct the man as he breathed and worked.

By birth a Norman, Henry's surname indicates—according to ancient custom—his birthplace. But there is uncertainty even about this matter, as the name is spelled in several different manners—Mandeville, Mondavilla, Amondavilla, Hermondaville (Guy de Chauliac's spelling), Armandavilla and Mondeville. Then there is the fact that in Normandy there exist two villages having somewhat similar names: Mandeville, near Caën, and Edmondaville, in Valognes. As the first French translation, made in 1314 at Paris during the lifetime of the author, spells it Mondeville, this reading has been accepted by most writers.

It is unknown where Mondeville began his medical studies; probably at Montpellier and at Paris. Having become clerk and master, he went to Italy to be numbered among the pupils of Theodoric, who strongly influenced him by novel teachings bearing on the subject of the treatment of fresh wounds. Surgery was the great passion of de Mondeville, who, following the example of William of Salicet, Hugh of Lucca, Theodoric and Lanfranc, decided to do for French surgery—fallen very low in the hands of ignorant practitioners—what they had done in Italy. A document dated 1301 informs us that he was then surgeon to the King, upon whom he attended on a journey to Flanders from April to October. His pay for 234 days' attendance abroad, and for 9 days at court, was 41 livres, 2 sols and 4 deniers. Three other surgeons

were attached to the service of the King's person, namely, Jacob of Sienna, John of Padua and John Pitart. There were also three physicians: John of Paris, William de Gross and William Bauffet. This last one became Bishop of Paris in 1304, a significant fact illustrating the close relations then existing between the Church and Medicine.

De Mondeville held his post at court until the death of Philippe le Bel, and then became surgeon to his successor, Louis. During this reign he saw much field work, and freely used the opportunity of employing the method of wound treatment he had learned from Theodoric, consisting in the successful use of the suture with a view to primary union.

After the year of 1312 we find him uttering many complaints about the burdens of the royal service, for which he had received no remuneration whatever. These complaints finally earned for him the King's permission to stay at Paris. When, probably at the recommendation of his master, John Pitart, he received the royal appointment, he was teaching medicine and surgery at the school of Montpellier, where he remained until 1306, after which date we find him teaching at Paris. He acquired a great practice, referring to it in these words: "Sometimes in a whole day I cannot manage to write a single line, being obliged to attend to my lectures, and having in addition to run hither and thither the whole day long to earn my bread, because I must earn everything I need for myself and my household by my own work."

In 1316 he begins to complain of his health, and resumes writing his surgery, which had stopped since 1306, giving as his reason therefor the fear of dying

before its completion. Though a consumptive, he bravely and to the end pursued his work, of which only one part of the third treatise and the whole of the fourth treatise remained unfinished at his death, which probably carried him away in 1320 at the presumptive age of sixty.

As a man, de Mondeville appears to have been of ardent spirit, a great reader of literature and philosophy, but most of all an indefatigable student of surgery. Possessing the frankness of honesty, the clergy, nobility and even the King's own person do not escape his criticism of their ignorance. Among universal superstition, he seems the only one to escape its thrall.

De Mondeville never was married, and openly rejoices in the fact. Crusty old bachelor, he treats the sex with little compunction, ridiculing women's foibles without mercy, especially those of the ladies of Montpellier. As his younger days were spent there, may he not have brought away from the southern city the memory of a tender disappointment?

In spite of his great clientele he died poor. Evidently he was very timid about his charges, and was mostly ill compensated for his time and trouble. As he felt his own worth and value, the lack of financial success was very galling to him. To this irritation must be ascribed the drastic attitude he takes in regard to the question of compensation. I have no doubt that he himself never followed the principles laid down by him for the extortion of adequate fees, otherwise he would have died a rich man.

De Mondeville was one of the few learned physicians of the Middle Ages who devoted themselves to

surgery, then considered a degrading, manual trade. He contended that the surgeon must be first a physician and ought to be well versed in anatomy and medicine. His discussion of "*contingents*" shows him possessed of a very respectable amount of pathological knowledge, and the rules laid down by him for the treatment of most maladies hold their ground to this day.

The fervent love he had for his chosen profession is shown by nothing better than the apostrophe by which he ends a long argument in honor of surgery :

"You surgeons, therefore, if you have conscientiously operated for a convenient fee upon the rich, and upon the poor for the sake of charity, need fear neither fire nor rain nor wind ; you have no need of entering the priesthood, nor of making pilgrimages ; because by your own knowledge and science you have the means of saving your souls, of living without poverty, dying in your own houses, and of living in peace and joyfully exulting that your reward in heaven will be great."

The frontispiece of Nicaise's volume, which is the reproduction of a miniature in the ancient French manuscript translation of De Mondeville written in 1314 (that is, in his lifetime), and which is considered by Nicaise, as well as by Malgaigne, Chéreau, Littré and Pagel, an image of the master himself, represents him lecturing to a class. He wears a purple gown of ecclesiastical cut, with black skullcap and red stockings. His slippered feet are crossed in a picturesque if not comfortable attitude. He appears to be tall and slender, his face fine-cut and lean. His hair is grey, likewise the scanty but full beard, his expression being that of a man of about fifty years.



DE MONDEVILLE LECTURING TO CLASS
(Miniature Ancient French MSS.)

In spite of diligent documentary search among the origins, the conditions of French surgical practice during the Middle Ages are still wrapt in considerable obscurity. Nicaise, in his excellent presentations of de Mondeville and of Guy de Chauliac, gives, in the form of "*pièces justificatives*," the documentary basis on which our knowledge of the subject must be based to-day. There existed at Paris three classes of people practising surgery. The first of these was composed of very few and very exceptional individuals, so-called "*médicins-chirurgiens*," that is, medical men who were "*magistri*," clerics, or full graduates of the medical school, and who, though the occupation was of ill-repute, for some reason or another preferred the practice of surgery.

In what repute surgeons stood is shown by the following sentence found in Notandum No. 6* : "*Secundo debet cyrurgicus, si potest, cavere de infamia, quia, ab antiquo populus reputat omnes cyrurgicos latrones, homicidas et pessimos deceptores.*" (Secondly, if possible, the surgeon ought to eschew ill-repute, because the people, since ancient times, consider all surgeons to be thieves, mankillers, and the worst kind of frauds.)

In those days there was neither emolument nor honor in surgery, and yet we see an exceptional man like de Mondeville devote his life exclusively to the despised profession. Chéreau, first collector of the scanty biographical data of the author, has given a very high estimation of the qualities of Mondeville. It is not exaggerated and has been by all students accepted as just. Emphasis is laid on his enormous

* Pagel, page 75.

reading and erudition, his profoundly moral character, his simple and sincere piety, his overwhelming love of the science and art of surgery, his practical prudence joined to a true love of his kind, his modesty, sincerity and truthfulness, and finally a well developed historical inclination based on the soundest learning.

The determining factor of the choice of a little esteemed profession by a man of Mandeville's caliber is to be sought mainly and only in his strong love of surgery. As even legitimate surgery was then considered a manual trade, degrading to the truly learned and elect, it required an exceptional elevation and independence of mind on the part of such men as Mondeville and his illustrious pupil, Guy de Chauliac, successfully to brave universal prejudice.

The Paris school of medicine, composed of all those that held the degree of master (equivalent of the later "doctor") in medicine, was conducted by two biennially elected Regents, on whom devolved the duty of class teaching. There was no course in surgery. During a short period at the end of the thirteenth century exception was made in favor of Lanfranc, who came to Lyon and Paris as a political fugitive and was authorized to give instruction in surgery. But in 1350 a relapse is to be noted, when the bachelors of the school were again forbidden to practise the art. This condition of things is further characterized by one passage in Mondeville's text, where he mentions his hesitation about publishing a certain treatise, on account of the fear he had before the Regents.* Among those that practised surgery, these "*medical surgeons*" were the only ones that had any learning, and though

* Nicaise, page vi.

their number was, and for a long time remained, small, they were the only ones to whom is due all the advance made by surgery in the Middle Ages.

The second group of those who practised surgery (Malgaigne gives their number as ten in the fourteenth century) were the so-called "*lay surgeons*," simple artisans that in the thirteenth century had formed a guild like other tradesmen, and whose statutes can be found in Etienne Boileau's *Livre des Métiers*, the most ancient document bearing on the practice of surgery at Paris. In addition to this, the surgeons were, on February 25th, 1255, united in a confraternity named after the Saints Cosmas and Damianus (*la confrérie de Saint Côme et Saint Damien*). Its character was religious, and to this must be attributed the fact that, in a document dated 1360, the King himself is mentioned as one of its members. These lay surgeons formed a body entirely independent of the faculty of medicine, and license to practice surgery was, after successful examination by six jurors presided over by the King's own surgeon, conferred upon the candidates by the latter, and by him only. In a document dated 1327, mention is made of two surgeons attached to the personal care of the sovereign, upon whom devolved the duty of visiting the sick inmates of the *Hôtel Dieu*. In a document dated 1370, the obligation is laid upon them also to visit and dress free of charge such patients as could not be admitted to the hospital. This is the earliest authentic record of obligatory, gratuitous treatment given to surgical patients. Mondeville's writings show that most if not all of these lay surgeons were illiterate and possessed of little professional skill.

The third group of surgical practitioners were *the*

barbers. As yet in the thirteenth and fourteenth centuries they do not play the important rôle they will assume later, in the fifteenth and especially the sixteenth centuries. In 1301 there were twenty-six of them in Paris. The surgeons had abandoned to them phlebotomy, cupping, tooth-pulling and the care of sprains, but their encroachments upon other parts of surgical practice begin to be felt more and more, and are the subject of frequent complaint and acrimony. As early as 1365 they share the exemption of the lay surgeons from night patrol in the streets, and from guarding the gates of the city. Their licence to practice was issued by the licensing body provided for the lay surgeons. The earliest statutes of the barbers' guild are dated 1371; in them the king's first barber is designated as their foreman. Letters patent issued in 1372 give them authority to treat surgical complaints of all kinds. As the reason for this extension of privilege is given the expensiveness of the surgeons of St. Côme, and their refusal to perform certain low surgical services. They are designated as "*Chirurgiens de robe longue*," to distinguish them of the barbers, whose appellation is "*Chirurgiens de robe courte*." In 1505 these become definitely organized into the corporation of barber-surgeons, and from among them is to issue Ambroise Paré. By reading the conditions imposed upon the surgical practice of the barbers in their statutes of 1371, we conclude that they must have been still more illiterate and ignorant than the lay-surgeons.

To recapitulate, we may then say that in the times of de Mondeville surgical practice in Paris was exercised by three orders of recognized surgeons: first, by

learned graduates of the medical faculty, that is, physicians who practised surgery; then by lay surgeons, members of the confraternity of St. Côme; and finally by the body of barber surgeons, who received their license from the former.

As to the teaching of surgery at Paris, we see that Lanfranc's visit established the precedent for instructing the students of the medical faculty and the apprenticed surgeons of St. Côme in the principles and practice of the art by a course of lectures. Under the beneficent sway of this tradition de Mondeville was enabled to follow in the footsteps of his illustrious teacher. He informs us in 1306 that "he belongs to the faculty (*étude*) of Paris, and that he is publicly exposing the doctrines of surgery in the medical school before a noble assembly composed of medical students and other distinguished personages." From what he says it can be further deducted that his courses in surgery were followed by medical students, that is, clerics versed in latin, and by surgical apprentices who were ignorant of latin and whose education was otherwise defective. With characteristic kindness, showing an absolute freedom from the conceit of erudition, he tempers his great learning to the intelligence and knowledge of the mediocre student, his teaching, or rather reading, of the latin text being copiously interspersed and elaborated by expositions given in the vulgar tongue. To supply the wants of the unlettered student, de Mondeville's manuscript was translated into French by an unknown pupil in 1314, that is, during the lifetime of the master. The manuscript is to be found in the Bibliothèque Nationale, and has been published by the Société des Anciens Texts. (I have found a copy in the Astor Library.)

We have seen from the foregoing that at the end of the thirteenth and the beginning of the fourteenth centuries, the study of surgery in France was not an easy matter. As with short exceptions instruction in surgery was first absent, then eliminated from the curricula of the medical faculty, apprenticeship afforded the only mode of training, and this was necessarily very crude and defective. But, as we shall see later on, the practice of surgery had other grave drawbacks. It involved a good deal of personal risk to the practitioner, who besides had to contend with the most formidable competition, not only of the irregulars or quacks by profession, as there were "all the unlettered, such as unlicensed barbers, soothsayers, brothel-keepers, cheats (confidence men, insidiatores), forgers, alchemists, harlots, pimps, midwives, old women, converted Jews, Saracens, and other such," but also, *quod plus quam mirabile est et absurdum*, kings, princes and prelates, canons, curates, monks, dukes, nobles and burghers, who would, without any knowledge whatever, forwardly undertake the most dangerous surgical cures, most of all those of the diseases of the eye, *quarum curae sunt periculosae difficiles et fallaces*, to such an extent, that therein even sufficiently expert surgeons are very rarely (*rarissime*) successful."

No translation can adequately render the quaint culinary latinity of our author, whose caustic humor sparkles, not by dint of clever paradox or antithesis, not by its rhetoric, but rather captivates through deep insight into the devious ways and the cunning of the frauds and deceptors, who, "though ignorant, thrive and are magnificently exalted by their practice, while the well instructed, truth-telling and expert are op-

pressed, and frequently have to live the life of paupers and mendicants."

In the introductory note to the second treatise we find the tricks of the present-day Christian Science beautifully delineated. The argument of the treatise runs as follows :

"Now follow the rules and subtle cautions to be employed by the surgeon against dishonest surgeons and physicians (*contra cyrurgicos et contra aliquos medicos fraudulentos*), and against patients, that is, in what manner an adequate remuneration can be extorted from them (*quomodo possit ab ipsis sufficiens salarium extorqueri*)."

Therein we find this remark : "The vulgar say of the forementioned monks and their likes, that they know surgery without having learned it, and that they have become replete with its knowledge by the mere grace of the Creator. And if anyone does not simply believe in this, he is branded a heretic and unbeliever, and infamous." Then continuing, he says that the vulgar divide all surgical disorders in two categories—"such as come from a visible cause, as, for instance, from a cudgel, a stone or a knife, and again such that happen without a visible reason, by themselves, as it were, or from an intrinsic and unknown cause. For the healing of the first group of ills, the employment of a surgeon is proper ; for the second group, however, the surgeon is of no use." Of the three reasons enumerated, we will bring only the third one : "Such a malady comes solely from God, glorious and sublime ; it is sent by him, and therefore the surgeons are powerless because they cannot go against God ; furthermore, they believe that God and the disease would rise

against the surgeon, and that God alone has the power to strike and to restore, to wound and to cure. There are even many so confiding and devote, that it is equally agreeable to them to be either well or sick, and who do not want to be cured by human hand. They say, 'I am pleased to be sick, because I know that it so pleases God, and that if it were not his pleasure I would be well.' And if you say to them, 'Would you be restored to health?' their reply is, 'Not by the hand of man; nor is this possible, nor would it be acceptable to God, because if he willed so I would be instantly healthy.' And they expel most shamefully the best and expertest surgeons from these cures. In the meantime the rascals, not wishing to have the same fate, simply deny themselves to be surgeons, whose business is to attend to wounds, whose knowledge was acquired by instruction and from the example of those whom they had seen to perform operations. But they assert that their science of healing was infused into them by glorious God, by the strength of which they know how to cure those unknown maladies which issue from the gift of God and of the saints; that this grace, by them gratuitously received, does not proceed from instruction, but by mere provision and by the grace of our Saviour, whose lovingkindness filleth the earth. Likewise there exist false divines or priests, as, for instance, hermits and those living in seclusion, furthermore, numbers of ancient harlots and procuresses and the like, of whom mention was made before, who deceive the suffering by the application of blessed water (*aqua benedicta*), by divine prayers, and by other sinister tricks," so that their divine efficacy may be believed in."

It is well known that universal superstition and ignorance compose the rich soil in which quackery thrives best. The evidence contained in the text of Mondeville's third note of the second treatise* furnishes ample proof of the abundance of this sort of ignorance in his time, not only among the common people, but likewise and almost without exception among the powerful in Church and State. But let the text speak:—

“It is to be noted that at the present time it is the custom of all princes, prelates, and of the common folk in these Western lands, not to trust any learned surgeon, declaring that the surgeon ought to be without science (*non debet esse clericus*); because, while the cleric frequents lectures, the lay surgeon learns the practical manner of manual operating. This false reasoning emanates from the talk of the unlettered lay surgeons, who since ancient times have continuously served the rich, and with whom the rich agree therein, and most signally the unlettered rich, on account of the identity of their common ignorance. They deplore deeply and in unison, that there exist at all any lettered surgeons whatever. This reason, however, is no sufficient proof of the proposition, because all surgery does not consist of mere manual operating, but on the contrary demands such theoretical knowledge as no mere lay surgeon can possess. Furthermore, the better one's knowledge of theory, the more subtle becomes his comprehension of manual operating, according to the theory previously conceived. Through theory he recognises cause and utility, by means of which he is enabled to operate with precision when it is necessary, and not otherwise.”

* Pagel, page 68.

Among the quacks and parasites that made life a burden to the learned physician of the middle ages must be mentioned the traveling charlatans, the "incisores, the "coureurs" of Chauliac, whose advantage over sedentary surgeons lay in their ability, using a Western expression, "to jump the ranch" whenever an operation failed or their patient died. They flourished up to the eighteenth century.

It was mentioned that in the middle ages the practice of medicine, but especially of surgery, involved considerable personal risk to the practitioner. This is evident from the constantly repeated caution of the teachers to their pupils not to undertake any doubtful cures, and not to take charge of incurable patients. The reason of this was that, in the state of superstition then universally dominant, if death ensued, this was generally charged to the practitioner, a popular view which to him often resulted in financial damage if not bodily harm. Hence we find in all the documents of the middle ages proof of the dangerous nature of the practice of surgery. Whenever in a grave case surgical intervention became necessary, the surgeon had to exercise vast precaution, as shown by the case reported by Malgaigne. Roland, before undertaking the operation of a pulmonary hernia declared to be incurable by the cleverest surgeons of Bologna, exacted from the bishop express permission to operate, and had his safety guaranteed by the patient himself and by the presence of his overlord and of the patient's friends.

It is not the purpose of this paper to make an extended study of the scientific and practical value of the technical teachings of de Mondeville. It must suffice to say that there is ample evidence in his

writings of a critical spirit alien to scholasticism, of originality in the application of principle instead of the slavish and unthinking following of precept, and of a remarkable amount of sincerity and frankness not shrinking from full daylight. Our interest will be concentrated on that side of the significance of our author which the German language so well describes as "kultur-historisch." The study of the twenty-six headings of the *Notabilia Introductoria* of de Mondeville's second treatise is not only of high interest on account of the *naïveté* and sincerity with which the relation between patient and surgeon is treated, but also because it vividly illustrates the manners and customs of that ancient society. The reader will find that, essentially, things have remained to this day what they were then, the only difference being, that to-day human nature is hidden under a thicker veneer of conventionality. It is difficult to treat the matter of this introduction connectedly and in a systematic manner, as the author's arrangement of it is arbitrary and desultory.

We have already made the acquaintance of some of the ideas laid down in the first, third and fourth chapters of *Notabilia*, bearing upon the difference between true and veritable physicians and charlatans, and upon the characters that distinguish a lettered surgeon from the illiterate lay-surgeon and barber. In the second chapter we find a diverting and humorous description of the game of ruse and mutual trickery played by the physician against the surgeon and *vice versa*. The elements of the game were then what they are to-day, and it was played just as it is played now. Each claims exclusive and sufficient ability to deal with the malady in question, exaggerating his own import-

ance at the expense of his adversary, neither one nor the other hesitating to take base advantage of the ignorance, fear and prejudice of the victim—that is, the patient. Most amusing is the eagerness displayed in claiming rights of specialty where there is a good fee to be had, in contradistinction to the evasion, shirking and lying employed where the patient is impecunious. After a skilful and impartial sketch of the rascality of the contestants, de Mondeville finally points out the way in which honest physicians and surgeons make distinction between medical and surgical cases, and the manner in which they come together where there is doubt in the matter.

The chapter turns on the assertion that, irrespective of the nature of the case, the dishonest physician and surgeon, who is called in first, invariably endeavors to remain in exclusive control, to the detriment of his patient. The reader of the original text will be interested by the author's literary skill in the lifelike presentation of the speeches made by the medical fraud to the rich man and the poor patient respectively. When the former is addressed the medical intriguer uses the "tone of an archangel" ("*ipse enim in voce archangeli sic alloquitur patientem divitem,*" etc.), and employs the deferential and plural form of the personal pronoun in conjunction with the singular vocative "*Domine, vos estis,*" etc. The deferent, flattering and fawning spirit of the address forms a striking contrast with the concise and frigid speech addressed to the poor patient, who must be content with the contemptuous "thou," and is coldly dismissed with a threadbare excuse, the insincerity of which is not veiled by the least mark of true regret.

Chapter VI offers a new modulation of the same theme. It shows the behaviour of the dishonest practitioner of the other branch of medical practice, who, being called in by the conscientious man in charge, abuses the confidence placed in him by privately discrediting and finally ousting the very man who had invited his coöperation. Whatever may be the issue of the case, the event is always and invariably used to discredit the work of the ousted predecessor. If the patient improve, the case was insignificant and would have turned out well anyhow; if an aggravation or death supervene, the man is to be blamed on account of his ignorance and neglect. "*Tout comme chez nous.*" De Mondeville says: "It is by these frauds and by a great number of similar ones (which it would be too tedious to enumerate) that surgeons and physicians are in the habit of deceiving their patients and of defrauding their own associates."

The most interesting part of this chapter, however, refers to the subject of "preventive treatment." Let the author himself speak:

"Therefore it appears from what went before that the treatment which preserves from future malady is of greater utility to the patient than all other treatment. But it is useless and prejudicial (*inutilis et dam-nosa*) to the surgeon, as it impedes the advent of the disease, the care of which would bring him profit. We must not therefore apply preventive measures except to the following five kinds of men:

"1st. To the truly poor, for the love of God. From the middling poor (*a mediocriter pauperibus*), however, it is permissible to accept chickens, geese and capons.

“2nd. To personal friends, from whom we would not take any fixed payment or counted money; we may, however, receive from some friends, victuals or jewels, a piece of cloth or of plate, in sign of old friendship rather than as a remuneration for treatment. But as it is not seemly for us to say this, should mention be made of a salary, price or money, our servants ought to see to it, saying, without our knowledge, as it were, and behind our back: ‘Hush! My master will have none of that; but you ought to deal courteously with him, so far as to offer him a cup of silver or something similar, although I am pretty certain that he won’t accept it.’ And by this cleverness of manners a good servant may succeed in getting more than the master by his operation. Likewise, if the surgeon employ a horse in visiting, on account of the horse, pay ought to be double.

“3rd. To those whom by previous experience you have found to be grateful after the cure is finished. It would not be decent to deceive these, the poor or one’s friends.

“4th. Prevention is to be applied to people who are bad payers (*male solventibus*), to whom, however, we do not dare to refuse treatment, as there are our liege lords and their families, chamberlains, justices, bailiffs and lawyers. The longer be the treatment of these persons, the greater our loss; therefore let us hasten their cases as much as possible by using the very best remedies.

“5th. We owe preventive treatment to those who pay us in full and in advance.

“To all others we do not apply, nor owe we, nor are we obliged to apply preventive treatment, as there

are the avaricious, the rich, usurers, and all those who prefer money and treasure to their own body's welfare, preferring to suffer in body rather than in purse. We are, furthermore, not bound to use prevention in the case of those who pay after the cure is finished, and according to the trouble expended on them. If these are cured rapidly, they pay inadequately; if the cure is prolonged, they pay much more. Let us administer to them feeble medicines of slow action, in the hope that their fee may be pro rata proportionate to the time employed. In the forementioned cases it is proper to let the maladies assume great proportions (*morbos permittimus augmentare*), declaring that thus, by the disease, nature throws off superfluous matter which it would be noxious to retain in the system; forbid to them the use of sweating, of rest or abstinence, explaining that perspiration, by dissolving the subtler portion of the humors, leaves behind the grosser and more harmful components, etc. Accordingly,—as there is no faith in Israel, and truth is powerless in public places,—and if things must come to that pass, we prefer to deceive the deceptors than permit ourselves to be defrauded by the dishonest. Nobody should imagine that, by what was and what is to be said, I wish to teach anyone to do what is unjust, my object being to show up what is evil, so that it may be averted; for it can not be avoided unless previously recognized. . . . But why should we be held to give counsel to the rich at our own expense while they are unwilling to aid themselves with what they possess? Having satisfied ourselves, let us be content to dig in their own ground.

“What was said in these six preceding chapters,

together with what will follow, is not written as being a part of the theory or practice of surgery ; nevertheless, it is all very necessary for the practising surgeon who wants to earn his living, as a shrewd but ignorant surgeon succeeds better and gains more than if he had command of all theory and practice of surgery, but was unable to enforce proper payment.

“ As the patient’s main and entire object is to be cured, and as if once cured he is apt to forget both his desire and his obligation to pay ; furthermore, as his spirit cannot rest as long as this desire is not fulfilled, so it is incumbent upon the surgeon to fortify his intention to be paid. Paid in full, he may rest content ; while unpaid, he should ceaselessly urge payment, not accepting promises or pledges, but only a written obligation or cash. Never should he consent to dine with a patient, unless the latter’s bill be receipted ; indeed, it would be better and cheaper for him to eat by himself in a tavern, for a debtor patient’s dinner always signifies a diminution of the surgeon’s fee.

“ Thus, if the physician must have two eyes, to the surgeon they are still more indispensably necessary ; for he who has more to do and to be on guard against more things, needs to be possessed of better counsel and of more shrewdness.

“ The surgeon who has the intention of well taking care of his patient must therefore in the first place take good care of getting his fee, for if this were uncertain he could not give proper attention to the rest of things, as there are the illness or the vitality of the patient. His spiritual eyes would rest totally obscured, and we could say of him with the psalm, “ *quod oculos habet sed non videbit* ” ; his examination will be superficial and

his delays and excuses will have no end. But let him once receive his fee, and the blind will see, the halt and lame will not only walk, but will joyously run, for received pay is a strong tie.

“Secondly, if possible, the surgeon ought to avoid ill repute, for the people, since ancient times, consider all surgeons to be thieves, homicides and the worst kinds of cheats.

“Thirdly, as the surgeon’s work is manual, and his error can be easily recognized by the eye or finger, nor could it be saddled on anyone else but himself, while the physician’s error, not being apparent to the senses, can be charged to nature or to the constitution of the patient; it is therefore necessary that the surgeon employ in his work all the more deliberation and caution, and that he should provide, if he can, to have someone else share the responsibility of a blunder that may have been committed.

“Aside from all this, the surgeon ought to have, if possible, a faithful and loyal associate, to whom he can have recourse, and whose advice he may reclaim, and who during his illness or absence may visit the patients. In dangerous cures of the nobility or of friends, where he could not demand a fee for himself, he could with all courtesy make a stipulation for the payment of his associate. If this were not possible, he could at least, without incurring any blame, arrange so that his friend may receive some money or a jewel in the shape of a present, hoping at the same time that if this be acceptable, the patient would offer to himself also as much or more. In fact, it would be hardly decent to make a present to one and not to give anything to the other.”

Notandum No. 13 is important, because in it are contained fifty-two sub-chapters on what de Mondeville calls "*contingentia*," that is, external or internal conditions influencing the course of a malady. They form the equivalent of what nowadays is named "general pathology," and are replete with the evidence of accurate observation and shrewd argument and deduction. Time will not permit us more than to cull here and there a few observations bearing on our subject.

In sub-chapter No. 22, dealing with "repletion" and "evacuation," we find the limits fairly well defined, to which the customs of the time bound physician and surgeon respectively. The contrast between then and now is very striking. While public conscience exacts nowadays that only those of us should undertake the special work of surgery who have had requisite training therein, leaving to the general practitioner the rest of the realm of internal medicine, in the days of de Mondeville almost everybody deemed himself competent to deal with surgery; medical treatment, on the other hand, was strictly reserved to the clerical masters in medicine. And the principal part of medical therapy consisted in the administration of purgatives. Our author says:

"When the surgeon is employed in a manor or village wherein there be no physician at hand, he may administer some method of evacuation, as there are alteratives, digestives, laxatives, phlebotomy, cups, leeches, the cautery, eruptories, vomitives, clysters, suppositories, pessaries, stupes, baths, fomentations, head purges, gargles, sneezing powders, frictions, sweats and other similar remedies. But where a learned physician be opportunely available, I do not

advise the surgeon, even should he be a graduate in medicine and however well instructed, from the moment on that he call himself surgeon, to meddle with evacuations, most of all by means of violent laxatives. For this there are two reasons: First, that he may not provoke the anger and ill-will of the physicians; and secondly, because if he be successful all may be well, but if he fail, he will acquire with justice a bad reputation among the public. Moreover, the physicians will murmur because he has meddled with work that is not his, and they'll say that he is worthy of the fate of a certain desperate ass, who, wishing to fawn upon him as a little dog might do, violently trampled upon and overthrew his master, whose family, thinking that the donkey had gone mad, killed him.

"As to clysters and other mild evacuations, these a learned surgeon may administer, thus becoming physician to his intimate friends of whom he will not accept any fee, and yet whom he can not or dare not refuse to treat. He'll act the same way towards the poor, for the love of God, but it is altogether safer and better to refuse this to all except the extremely poor. Whatever use a good surgeon may make of his free time, he will always have enough to do, and will earn enough by mere and pure surgery (*pura et propria cyrurgia*)."

Sub-chapter 23 deals with the effects of pleasure or joy upon the course of a malady. "The surgeon should arrange the *regimen* of the patient with a view to his joy and amusement, by promising him an early recovery, by permitting him the company of his relatives and of those he has a liking for, more especially, however, the attentions of a 'merry-maker' (*joculator*).

who should solace him by playing the fiddle or the ten-corded psaltery, etc. And if he be canon to one church or more, he should be told, no matter whether it be true or false, even if he were to be incarcerated or to be hung directly after his restoration to health, that his bishop or prelate is dead, and that he (the patient) had been chosen to fill the vacant place; that he should think beforehand how to arrange his new abode and its service, and that there is strong hope that later on he may become Pope. Without any blame, false letters may be conveyed to him, announcing the death or disgrace of his enemies or of such persons whose death may mean his promotion."

Sub-chapter 48 treats of the conditions which depend upon the aid the surgeon receives from his own assistants or the relatives of the patient. He deprecates their quarrelling among themselves, but especially with the patient, as this is bound to do serious harm. He says :

"This occurs very often with the husbands or the wives of the sick whenever they happen to scold each other, but much more frequently with women than with men, for in these days and in these our parts of France it is the women who command and the men who obey (*mulieres imperant et homines famulantur*); whatever the surgeons earn by curing men, this their women consider as a dead loss; but whatever the surgeons gain by curing women, their husbands esteem as the greatest benefit. And the reason of all this is, that each woman considers her own husband to be the worst one of all. But it is just the opposite with men, as each of these believes to possess, for wife, the best one of all women."

Sub-chapter 49 defines the qualities a surgeon must possess. He "must have good sight, prompt readiness, a good memory, good judgment, sound intelligence, and must know how to apply general rules to particular cases. He must be assiduous in visiting his patients morning, noon and night if this be required, so that he may observe the effect of his medicaments. He should proceed according to the canons of medicine, distrusting auguries and prophecies, witchcraft and geomancy. He must likewise supervise the kitchen (*debit similiter attendere ad coquinam*), so that the cook should not be careless, mistaking what is too salt for unsalt. Otherwise speaking, these four things are necessary for the surgeon-operator; not to mind stench; to cut or to destroy boldly as though he were an executioner; to tell lies courteously; and to know how to extract with subtilty from strangers either a present or money."*

At the end of the sub-chapter multiplicity of counsel in treatment is deprecated, and the damage therefrom arising to the patient is clearly exposed.

In Sub-chapter 51 we encounter material that makes us suspect the sobriety of the surgeons of de Mondeville's time. At least we find that certain circumstances permitted in those days even a drunken surgeon to perform an operation with the consent of the patient. "If an incision or any violent operation must be made, the surgeon should never undertake it after having imbibed (*postquam potavit*), but rather while he is sober, especially in dangerous cases, or on

* Quod foetorem non abhorreat, quod audacter scindat ant interficiat sicut carnifex, quod curialiter mentiatur, et quod sciat subtiliter a barbaris pretium ant pecuniam extorquere.

the persons or members of the nobility whose fame is great, excepting in the following seven circumstances : 1st, if, after the surgeon has had his potations, the necessity be great, as, f. i., in a fracture of the arm, or in dressing a wound ; 2ndly, if his hands be tremulous, because then a morning draft will strengthen them ; 3rdly, if he is sickened by the stench, especially by the fœtor of a gangrenous erysipelas or something else ; 4thly, if he be pusillanimous, because wine, even in moderation, affords courage to the timid ; 5thly, if he apprehend that the patient may entrust himself to another surgeon ; 6thly, if he suspects that the fee, prepared and ready, may be converted to another use ; and 7thly, if it is found necessary that the operation be done at the earliest moment possible, and the patient having consented, though he had previously objected, there is just apprehension that he may object again in another given moment."

We shall close our anthology by giving an account of how a consultation (*collatio*) was held in de Mondeville's time. In Chapter 22 of the *Notanda* he says : "It is to be observed that for the treatment of a surgical case a surgeon may be called or not ; if a call there be, it may be for one or more surgeons, and the same may be said of physicians. If, however, neither surgeon nor physician be summoned, there is no occasion for a consultation. Nor is there any possibility for it, if a single surgeon or a single physician be invited, unless they are called together at the same time. But if several are summoned simultaneously, then there is occasion for a consultation, those present being either all surgeons or all physicians ; or again, there is one surgeon together with one or more physi-

cians, or the reverse ; or finally, there may be several of the two different kinds. When thus a number have met together, whoever they may be, unless one or more or all of them be envious, contrary, or haughty, it will behoove them, if necessity or opportunity so demand, to confer once or more times, in order that it may be settled what is to be done. *And this is the manner of holding consultations :* First, it will be necessary to discuss the present illness, inspecting and palpating carefully, as Haly advises, saying that the surgeon's observation is done by touch of hand and by ocular inspection. And this should be done by all those present, one after another. Then, if the case require it, they once more should examine the patient, all being present, demonstrating to each other the symptoms of the malady and such noteworthy particulars as may depend either upon the disorder or upon the patient himself. After this, one of them—most properly the one who is most important among them (*magis autenticus*), especially if he be a physician—should address the patient as follows : ‘ Dear sir, we plainly see your case ; it is to us perfectly clear ; and you ought to be glad and to rejoice, for we here present are so many and such as would be sufficient to take care of a king, the least of whom could adequately discuss, prosecute and finish your cure.’ Afterward he should ask him for the circumstances of the disorder, saying : ‘ Dear sir, may it not displease you, nor be taken as an offence, when I ask this : When did this disease first attack you ?’ and thus they should put to him many questions, etc. After thus having asked carefully all the questions of the patient, they all should leave the sick room, entering into another

chamber, which should contain no one else than the consultants, for in all consultations the masters ought to deliberate by themselves, so that they may all the better elicit the truth. Sometimes, on account of a dispute they may brake out in such words (*prorumpunt in verba*) that strangers present might believe them to disagree and to wrangle, which in truth may really be the case. But presently he who is the oldest, most eminent, or the most famous, etc., or if it be so, the king's own physician or that of the pope, should propose to the others that one should speak after the other. Thus, all being silenced, as they must in his presence, he will take the word, questioning one after the other, beginning with the youngest and least famous and ascending from the lower to the higher; for if the great or greatest were first permitted to speak their minds, the younger or less considerable would have nothing to say, and thus the consultation would be null and void (*nulla*); but whatever may be proposed by the younger ones, it will not be improper that the older ones should straighten, add to, subtract from it, or expunge or approve of all of it. He will thereafter ask of all in the order before mentioned what the present illness is, what its name might be according to the experience of the experts, what are the authors, and where is mention made of them. Having received answer, he should ask whether there be a cure or not, and if there be, by what means." After this follows the presentation of a concrete case by way of example.

From all of which it is evident that the manner of conducting an orderly consultation has not changed in six hundred years.

Alqui lumen vos pueri re lux docei.
Xristus omnes qui crebrt finis

Raymond de Vieussens.

NOTED NEURO-ANATOMIST AND PHYSICIAN OF THE
XVII CENTURY.

BY B. SACHS, M.D.

The use of names in nomenclature has been roundly condemned, but names help to recall persons who, though almost forgotten at the present day, have played more or less of a rôle during their lifetime. The name of Vieussens is familiar enough to many of us, but what manner of man was Raymond de Vieussens? May we call him a great genius? Plodder he was beyond all doubt, a man much admired and much feared by his contemporaries, a man possessed of the one intense desire, to unravel more and more of the mysteries of the human brain. To this purpose he was willing to devote all his energies. The story of his life may be told very briefly.

He was born in 1641 in a small village bearing his name, the son of a Lieutenant-Colonel, who bequeathed nothing to the son save some family pride. Left entirely to his own resources, Vieussens discovered a taste for study; after the fashion of his day he studied philosophy first and then became a student of Medicine at Montpellier, where he distinguished himself by his constant application to, and his great interest in, anatomy. After graduation—the exact year is not known—he established himself in practice in Montpellier in

1671, and at the age of thirty was made physician to the Hospital of St. Eloys, devoting himself especially to neurology, "because it was the least known and the most neglected part of medicine," in spite of the work done by Willis. After ten years of dissections he published the "*Nevrographia Universalis*," which at once gave him great fame. The Academy of Sciences made him a member in 1685 in the capacity of anatomist, and in the same year he was made a member of the Royal Society of London. His works evidently aroused considerable interest throughout Europe, and one of his biographers states that "the King of Spain made so much of his works that he read them." In 1688 he was called to Paris and was given a stipend of one thousand pounds from Louis XIV. Shortly after this, Mme. de Montpensier lost her physician and offered the position to Vieussens, who kept this charge until the death of the princess.

In a French edition of his "*Expériences et Reflexions sur la structure des Viscères*," published in Paris in 1755, many years after his death, we find evidence of his having been among the noted physicians of the day. He tells us, for instance, in his 21st observation, in a singularly refreshing way, the story of the illness of M. de Barrilon, *Conseiller d'état ordinaire*, who was ill of a fever in 1691. He mentions by name M. Leger and M. Duchesne, and several other learned doctors—giving each one the title due him—who were in consultation with him over this case. Titles evidently meant as much in those days as they do in Europe at the present time, and there seems to have been less reticence about the names and family secrets of patients than it is customary for the physicians at



the present day to observe. He tells us with what care he examined M. de Barrillon and how he and the other four physicians took the greatest possible trouble to determine what M. de Barrillon suffered from, and after putting all their heads together they concluded that he suffered more from the retention of bile in the liver than from anything else. It is more likely, however, that the distinguished patient, from Vieussens' account, had abdominal tumor of mysterious origin, yet it will not do for us, even at this day, to criticise our ancient colleagues for their inability to arrive at a plausible diagnosis. The practice of medicine in Paris was not to the liking of Vieussens, and he returned to Montpellier, where he resumed his work at the Hospital St. Eloys and applied himself particularly to work in chemistry.

At this time a famous dispute arose between Vieussens and Chirac as to the acidity of the blood. Europe was stirred by the dispute, which served no better purpose, however, than to show up "the errors of both and the vehemence of each in discussion." Weary of this discussion, Vieussens returned to his studies in anatomy and remained faithful to them up to the time of his death in 1715.

The advances of nearly two centuries make it impossible for us to estimate such a man at his true worth. He must be judged by the standards of the day; let a near contemporary have his say.

Astruc, in his "*Histoire de la Faculté de Montpellier*," has given his estimate of Vieussens: "He was a hard worker and desirous of glory. He would have been great if he had had the spirit, and above all, if he had been able to discriminate between the good and the true; between the meritorius, on the one hand, the

bad, the malicious, and the mediocre, on the other. His style was very prolix and his Latin full of Gallicisms, but it was clear and one could read it without trouble. In spite of these defects, which diminished his worth, I do not think that one could dismiss, without doing him injustice, the name of Vieussens from the number of illustrious physicians who made up the Faculty of Montpellier."

Contrast with this the Latin ode printed in the preface of the edition of the "*Nevrographia Universalis*," published in Frankfurt in 1690, and in an edition of 1716, published at Lyons one year after the author's death.* The translation is Dr. Dana's offering:

HORATIAN ODE

*To Vieussens, of the Academy, Doctor of Medicine at Montpellier,
and new describer of the Human Brain.*

A bold Columbus, he penetrated shores unknown to ancient ships
And regions of the earth not before explored,
Sailing among the rocks and quicksands of the sea.
Through this brave voyage he prepared
Great honor for himself; Europe
Has placed his name forever in its annals,
And our descendants will revere it for all time.

What reward do you hope for yourself, Vieussens?
Look around this little earth and see
Of what crown you consider yourself worthy,—
Because you have described the brain so clearly?
You observed, with the eye of Lynceus,
The nerves flowing from their roots through the limbs,
And you saw fibres never discovered by the eyes of the ancients.
Dedalean Nature formed the vital tissues into intricate folds;

* Copies of these editions were shown to the members of the Club. The 1716 edition is a true "Edition de Luxe," in a splendid state of preservation.

RAYMUNDI
VIEUSSENS
DOCTORIS MEDICI
MONSPELIENSIS
NEUROGRAPHIA
UNIVERSALIS.

HOC EST,
OMNIUM CORPORIS HUMANI NERVORUM,
simul & cerebri, medullæque spinalis

DESCRIPTIO ANATOMICA;
EAQUE INTEGRA ET ACCURATA, VARIIS
Iconibus fideliter & ad vivum delineatis, æque incisís illustrata:

CUM IPSORUM ACTIONE ET USU,
Physico discursu explicatis.

EDITIO NOVISSIMA.



LUGDUNI;
Apud JOANNEM CERTE, in vico
Mercatorio, sub signo Trinitatis.

M. DCC. XVI.
CUM APROBATIONE ET PRIVILEGIO REGIS.

RAYMUNDI VIEUSSENS,
Medicinæ Doctoris Monspeliensis,

EPISTOLA

De

SANGUINIS
HUMANI

cum Sale fixò, Spiritum acidum suggerente,
tum volatili, in certâ proportione Sanguinis Phlegma,
Spiritus subrufum ac Oleum fœtidum ingrediente,

nec non de

BILIS USU,

ad

FACULTATEM MEDICAM LIPSIENSEM

perscripta,

una cum Hujus Responso.

LIPSIÆ,

Apud JOH. LUDOVICUM GLEDITSCHUM.

Anno M. DC. XCVIII.

Here lie a thousand wonders and paths
 Where error and mistake are easy.
 But you never err, nor with lubricious foot
 Ever offend.—Singularly perspicacious !
 You see in the dark, and, an acute observer,
 Walk safely in the deepest gloom.
 The wise Willis formerly traveled in this same path,
 Not without glory.
 Happy traveler, you about whom through the ages
 Fame ever mindful will address the people.

.
 By no means shall this toilsome work punish you ;
 For ten years you were bringing into light the
 Intricate structure of the Brain ; but through this
 Work, Vieussens, you bring for yourself an everlasting im-
 mortality

There seems also to have been considerable difference of opinion as to the merits of Vieussens' great work, the "Nevrographia Universalis." One of his French critics is of the opinion that "the anatomical part of his treatise is excellent, but the physiological—which takes up more than half a volume—contains much trivial matter ; the greater number of his facts are faulty or amount to very little. One may always admire the anatomist, but as soon as he starts out to reason about his anatomical facts the physician is lost in the anatomist." Vieussens appears to have been particularly proud of his physiological treatises, and yet these have not stood the test of time. He was much concerned with the principles of fermentation. But such information as he had acquired as the result of his inefficient experimentation left no impress upon the treatises of his or later periods. He was particularly proud of his work on the acid salt of the blood, claiming that the acid extracted from the "*caput*

mortuum" of the blood is obtained just as one extracts the acid of sea-salt by a process of distillation. It was very doubtful whether the acid salt thus derived from the "*caput mortuum*" belonged to the blood at all, and the amount obtained was so small that it would not have played any rôle in the organism. He was so proud of this discovery that he sent a circular describing his discovery to all the faculties of medicine in Europe. The Faculty of Leipzig republished the letter with some comments. In addition to this he asked the Faculty of Montpellier to permit him to make a public demonstration at the amphitheatre of his newly discovered facts in the presence of the Faculty. Thereupon Chirac arose, claimed that the discovery was his, and that he had communicated the facts to the students and that Vieussens got the facts from them. Vieussens and Chirac finally got Astruc to act as arbiter. His verdict was favorable to neither one; in his opinion it was absurd to dispute about an imaginary thing, and that the acid obtained by distillation was due entirely to the substances which were added to the blood.

Tired of these physiological disputes, Vieussens published a new system of blood vessels, "*Novum Vasorum Humani Systema*" (Amsterdam, 1705). He claimed that the blood passed through the lymphatic vessels and deduced therefrom a theory of inflammation. Vieussens was asked to give the reasons for the rapidity with which mineral waters passed through the kidneys. His explanation was that there was a special class of vessels destined to carry from the stomach to the bladder the waters, of which the physicians at the time made such abundant use. As late as 1715 he published a thesis in French on the structure and the

causes of the natural movement of the heart, with charts which were neither instructive nor exact, and another on the structure of the ear, with innumerable charts, and still another thesis on the humors of the body.

M. Senac has said that Vieussens would have done well enough if he had stuck to anatomy and had not attempted to philosophize about things of which he knew nothing. At this remote date the only impression one receives from a study of Vieussens' works and from a reading of his contemporary critics, is that he was an earnest student of anatomy, a mediocre physician, and a poor physiologist. Ample justice seems to have been done him by the survival of his name in connection with brain structure.

A Surgeon to the Pope.

A REVIEW OF THE CHIRURGIA OF JOHN DE VIGO,
AND AN ESTIMATE OF HIS POSITION IN THE
HISTORY OF SURGERY.

BY LEWIS STEPHEN PILCHER, M.D.

When Cardinal Giuliano della Rovere ascended to the Papal Chair in 1503, as Julius II, he brought with him as his personal physician a surgeon who had been long known to him as a practitioner in his native town of Savona; thus was introduced into Rome Joannis de Vigo, Genuensis, or, John de Vigo, the Genoese.

Throughout the whole period of the Pontificate of Julius II, de Vigo retained his place as the Pope's counsellor. He had already become familiar with the peculiarities of military surgery as a participant in the inter-city wars in which the Italy of that period abounded, and he must have found in the character and career of his patron—who was more warrior than priest—much to increase his interest and experience in military surgery. De Vigo was already a mature practitioner when he removed to Rome, being then forty-three years of age, having been born about 1460 at Rapallo, near Genoa; hence his name, "The Genoese." He was the son of a surgeon of distinction, Battista da Rapallo, whom the Margrave of Saluzzo, in an edict of 1473, mentions as "Fidelis consiliarius noster magister Battista dictus de Rapallo," and speaks of his skill in the removal of calculi from the bladder. A chronicler

of the time, Bernardino Orsello, also speaks of "Maestro Battista de Rapallo, ditto lo Genoghese," as "Homo scientiato et experientissimo nella chirurgia:"—"A man learned and most skilled in surgery." He was thus the friend and counsellor of the Margrave Ludovico of Saluzzo, and to honor him named his son De Vigo; it is related that the Margrave was ever deeply attached to his name-sake.

It is not difficult to see through the biographical fragments which have remained to us of the life of Giovanni de Vigo, evidences of an amiable and attractive character as well as of a studious and judicious temper, which attracted to him throughout his whole life the love and confidence of those of every degree with whom he came in contact. Not only in the quiet provincial life at Savona did he have the confidence of the Cardinal Giuliano, but throughout the ten exciting and strenuous years of his Pontificate at Rome was he able to retain it, and after the death of the Pope he remained as physician to his near relative, the Cardinal Cisto Gara della Rovere, with whom he resided in the delightful scenes of Tivoli as late as the year 1517, where the latest record that we have of his career leaves him still at work, but in poor health, suffering much from asthma.

The Court of Julius at Rome, of which he made a part, was a beehive of intense industry and ambitious effort, all animated by the master spirit of the intense Julius. Bramante was erecting the Church of St. Peter, Michael Angelo was painting the ceiling of the Sistine Chapel, and Raphael was covering the walls of the Stanza of the Vatican with his marvellous frescoes. The man most eminent of the Roman Medical faculty

was Giovanni Anthracino of Macerata, of whom we now know little except that he was the friend of De Vigo and of his son Aloysius. It is in the friendship of this Giovanni Anthracino that we get one of our glimpses into the amiable character of De Vigo as suggested by the formation of such a friendship rather than an envious rivalry, a friendship which should have lasted through the life of De Vigo and have been transmitted to his son after him.

It was while surrounded by this stimulating atmosphere of the Court of Julius, that De Vigo found himself prompted to undertake the great work of his life. Work, intense work, was in the air everywhere. The amiable De Vigo, had he remained at Saluzzo, would have been content to follow quietly in the footsteps of his father—perhaps that may be too much to say, for it does not appear that he in any large degree measured up to the practical abilities of his father in real surgical work—but it is rather as a scholar and a counsellor than as a practitioner and an operator that he excelled. In any event, after repairing to Rome the contagion of work seized him, and urged by his friends and especially by the Doctor of Arts and Medicine, Master Giovanni Anthracino of Macerata, he proceeded to compile a full and complete treatise upon surgery, which task, as he tells us, he brought to completion on the first day of January, 1513. His own words, as appended to the end of the ninth book, being:—

“We have completed and sealed and brought to an end, with the approval of God, the whole work of our surgery at Rome, in the year our Lord MDXIII, on the first day of January, Julius II reigning, in the

tenth year of his Pontificate, at which time also we were assisting His Holiness by discharging the duty of surgeon to him. Praise be to God and to the most glorious Virgin Mary, blessed be whose name."

The book, after having been written, was submitted to his friend, Giovanni Anthracino, by whom it was carefully corrected and revised before publication, and who supplied a preface in which he gives the history of the book and the reason for its preparation.

It is very evident that Anthracino was behind the whole thing, and we are led to think of De Vigo as an amiable, accomplished surgeon, an agreeable companion, a courtier acceptable in the halls of princes, fully equipped in learning but rather indolent in doing, who has been spurred up to his work by the continued urgency of his friend. Thus in Anthracino's preface he begins by saying: "When, most accomplished reader, *I* (Anthracino) had considered that now for a long time nothing had been published pertaining to the surgical profession, notwithstanding very many things had been added by more acute and modern observers. . . . *I* have asked and earnestly entreated, most talented reader, that illustrious and noted surgeon of Pope Julius II, John De Vigo, of Liguria, that he should compose and publish a most worthy and full work on Surgery for general use, for the convenience of posterity and to his own praise and glory, as well as that of his friends and of his native land. For the printing, he has entrusted it to those most careful and diligent printers, Stephen of Loreno and Hercules of Bologna. You will have, therefore, dear reader, a work, modern, I confess, but in which nothing departs from the opinions of the ancients, nothing per-

taining to the subject is left untouched ; you will have teaching of singular excellence ; you will have, indeed, a work scholarly and complete, so that with it, whether you wish the satisfaction of friends or the praise and glory of strangers, you will attain them all most abundantly ; a work which, indeed, all men, unless perchance they are envious and malevolent, will extol and frankly admire." Then after some further remarks along this same line, he concludes : "Whoever, therefore, shall have this book in his possession will have been learned either deeply or in less degree ; whether he remain in the city or navigate the sea he will secure this assuredly admirable result and greatest glory, and will cherish, indeed, immortal thanks to the author, the most honest man and excellent, who in so great a degree has honored himself, his native land, and, indeed, our age, by so sublime a work."

Anthracinus evidently had determined that the work of his friend should not suffer from the lack of adequate praise and proper characterization by him ! This is upon the first page ; upon the last page Anthracinus again appears, for the concluding paragraph is as follows :—"The present work is printed at Rome by Master Stephen Guillireti and Master Hercules of Bologna, associated, having been most accurately corrected and revised by that most careful and excellent man, Johannis Anthracinus of Macerata, in the year of our Lord MDXIII, Leo the Tenth reigning in the second year of his Pontificate, April 15."

Our knowledge of the surgical literature of that time justifies the claim of Anthracinus that no recent contributions to the literature of surgery had been made. The substitution of printed books for manu-

scripts was just beginning to become general, and the presses of Venice, Lyons, Paris, Strasburg, and other cities were issuing as printed books copies of the works of the older authors, which, until that time, had been accessible in manuscript only. The chief hand-book of Italian surgery, at least, was that of Peter of Argellata, who had taught and written at Bologna one hundred years earlier; his book, "Die Chirurgia, Libri Sex," first appeared as a printed volume in 1480; Leonardo Da Bertapaglia, the Padua surgeon, had composed a work on surgery between the years 1402 and 1429 based upon the observations of Avicenna, which was first issued in printed form from a Venetian press in 1490; Jerome of Brunswick had issued in the German tongue from a Strasburg press as early as 1497, his "Chirurgie," which, although of great merit, naturally gained no vogue in Italy. (The "Surgery" of Brunswig underwent nine editions, the last of which was published in Augsburg in 1539; there were two English translations, 1525; one Dutch, 1535; and one Bohemian, 1539.) A "Collectio Chirurgica" had been printed in folio at Venice in 1498, which contained the writings of Bruno, Theodoric, Lanfranc and Bertapaglia; that is, authors who dated back from one hundred to two hundred and fifty years and whose writings were practically epitomes borrowed from the Arabists of yet earlier centuries. The work of Guy de Chauliac had been made accessible by a French edition printed at Lyons in 1478 and by a Latin edition printed at Venice in 1490. The works of others also of the older writers were already available in printed form, but Athracinus was fully justified in his statement that for a long time nothing new had been added to surgical literature.

It is easy to believe that Pope Julius, even in the midst of his more important and complicated tasks, was interested in the work of his personal surgeon and friend, which, by its publication, he might well believe would bring additional lustre to his own reign. Unfortunately, he did not live to see it in print, for within a few brief weeks of that first day of January, 1513, when De Vigo had, as he says, "completed, and sealed, and brought to an end" his book, his great patron, Julius, had died, and when the printed book was ready to receive its colophon, it was with the sanction of Leo X instead of that of Julius II.

The book bore the following title:—"*Practica in Chirurgia*," Copiosa in Arte Chirurgica Nuper Edita, a Joanne De Vigo, Julii Secundi, Pon. Max. Olim Chirurgico, Que Intra Scripta Novem Continet Volumina.

(An Exhaustive Treatise upon the Art of Surgery, newly compiled by John De Vigo, formerly Surgeon to Julius II, Pontifex Maximus, which contains the below-mentioned nine volumes." And then followed in due order a descriptive index of the respective books.

The first book was devoted to the consideration of Anatomy; the second to that of Apostemes,—a most comprehensive class into which were collected abscesses, inflammatory swellings, glandular swellings, and neoplasms of every kind; the third book was devoted to Wounds; the fourth, to Ulcers; the title of the fifth book was: "De Morbo Gallico et Doloribus Junctuarum;" the sixth book was devoted to Fractures and Dislocations; the seventh book, "De Natura Simplicium," that is to say, "A Consideration of Materials

Used in the Making of Plasters, Ointments, Liniments and Embrocations;" the eighth book is the Antidotary, devoted to recipes for ointments, lotions, oils, pills and other confections necessary to the art of chirurgie; the ninth book was termed, "The Book of Additions," or in modern parlance "Appendix," in which many observations as to regimen, exercise, diet, questions of bleeding, purging, the diseases of mariners, and sundry other affections of a medical character were touched upon, such as pain of the head, pain of the reins, insomnia, weakness of the stomach, vomiting, various fevers, too much fatness and grossness of the body, and many other things.

The printed book, as it came from the hands of Stephen De Loreno and Hercules of Bologna, in 1514, was a beautiful and sumptuous volume. A copy of this *Editio Princeps* in perfect preservation and in its original binding is one of the treasures of my own library. Even at this date, four hundred years after its printing, the clearness of the text and the whiteness of the paper as one turns its rustling leaves are sources of pleasure to the bibliophile. It is foliated, not paged; the black-letter print is clear and distinct, and the text—in two parallel columns on each page—calls to mind the mediæval manuscripts which those early printed books so closely copied in their style. The original binding is still good; the embossed-leather-covered boards are still intact and make a beautiful setting worthy of the typographical gem, quite appropriate for the favorite of a pope. The original clasps are alone wanting to make the volume as complete as it was when it left the shop of its printer.

We can readily appreciate the eagerness with

which the learned world looked for the appearance of the promised book on surgery from one who occupied a position so eminent as that of Surgeon to the Supreme Pontiff at Rome. No great personality dominated the surgical field in any of the chief centres of learning at that time. In Paris, the surgeons of the College of Saint Côme were wearing long robes, delivering lectures based upon Guy de Chauliac and his predecessors, keeping their number as small as possible, and maintaining their position as surgical aristocrats to whom manual labor was degrading, abandoning procedures involving surgical handicraft to barbers and inciseurs (cutters); surgery, with them, was practically limited to the prescription of topical applications and internal remedies. In Germany, in the city of Strasburg only had any marked tendency to the development of real surgery manifested itself, as shown by the work of Jerome of Brunswick and Hans of Gersdorff, and throughout most of the cities of that country what surgery there was was abandoned to the barbers, who occupied the lowest possible position in the social scale. English surgery was but little further advanced than was the German; most of the surgery, such as it was, was done by barbers and empirics, and a statute of Henry VIII, of 1530, classed together bakers, brewers, surgeons and scriveners in certain regulations for protecting the practitioners of those handicrafts. John of Arderne had written, about 1375, his account of the treatment and cure of fistula in ano, from which time until Thomas Vickary, the surgeon of Henry VIII, no name worthy of note appears in the annals of English surgery.

It was into such a field as this that the much-

heralded complete treatise upon surgery by the surgeon to the great Julius II was ushered. The vogue which it received was extraordinary; within less than thirty years it went through twenty-one editions.* It was printed in folio, in quarto, in octavo; it was translated into Italian, French, Spanish, Portuguese, German and English; an abridgement was prepared, which likewise was republished many times and in many tongues. Practically during the whole of the sixteenth century it was the authority in surgery throughout Europe, and it may be accepted as the complete and final exposition of the surgery practiced and elaborated under the influence of medieval scholasticism.

It is marked by multiple citations of earlier authors.† Occasionally there is introduced a personal

* The following editions are given by Gurlt :—

“*Practica in Arte Chirurgica Copiosa Nuper Edita a Joanne De Vigo*,” Rom. 1514, fol.; Lugd. 1516 (4), 1516 (8), 1518 (4), 1519 (8), 1528 (4), 1532 (8), 1534 (8), 1561 (8); French translations—Lyon, 1525 (4), 1537 (8); Paris, 1530, fol., 1537 (8); Italian translations, e.g., 1540, Venet. 1556, 1560, 1581, 1588, 1639, 1677 (4); Spanish—Valencia, 1557, fol., Saragossa, 1581, fol., Perpignan, 1627, fol.; Portuguese—Lisbon, 1613, fol.; German—Nuremberg, 1677 (4); English—1543, 1570, fol., 1580 (4), 1743, fol. (1550).

“*Practica in Arte Chirurgia Compendiosa*”: Papoae, 1518 (4); Venet., 1520, fol.; Florent., 1525 (8), etc., etc.

Both works were many times bound up together with the writings of his pupil, Mariano Sancto, e.g.: “*Opera Domini Jo. De Vigo in Chirurgia Excellentissimi. Additur Chirurgia Mariani Sancti Barolitani Joannis De Vigo Discipuli.*” Lugdun, 1525, 1530, 1538, 1540, 1542 (8).

† The following is a list of the authorities quoted by De Vigo :—

Hippocrates, Celsus, Galen, Antyllus, Paul of Aegina, Johannitius, Rhazes, Avicenna, Mesué, Ali Abbas, Abulkasim, Roger, Wilhelm von Saliceto, Bruno von Longoburgo, Hugo von Lucca, Theodoric, Gentile von Foligno, Lanfranc, Guilielmo de Varignana, Dino di Garbo, Franciscus de Piedmonte, Arnold de Villanova, Bertapaglia, Henri de Mondeville, Guy de Chauliac, Peter d'Argelata, Antonio Guanierio, Arcaeus, and also Aristotle, Cicero, Ovid and Suetonius.

experience of the author, when he states that by such and such methods he had effected a cure on some prominent man. Examination of his book fully justifies the criticism of Gurlt that suggestions for operative interference in surgical conditions are rare, and are limited to ordinary incisions for abscesses, for extirpation of tumors, for the amputation of gangrenous limbs and for trephining. Operations for lithotomy and for hernia are neglected by him. Internal medication, blood-letting, purgation, the employment of compresses, salves and plasters, form the great mass of his surgical resources.

De Vigo's directions as to the arrest of hemorrhage are not without interest, especially in view of the enthusiasm with which Paré, in the next generation, announced his discovery of the possibility of replacing the actual cautery by the ligature in controlling bleeding after amputations. Strangely enough, De Vigo

The Library of the Surgeon-General's office contains the following editions:

De Vigo: "*Practica in Arte Chirurgica Copiosa.*" Rome, 1514, fol.; Lugduni, 1516, 4to; Venet., 1520, fol.; Lugduni, 1521, 4to.

"*Practica Compendiosa in Chirurgia Compilavit.*" Venet., 1520, fol. Bound with "*Chirurgia Mariani Sancti Baroletani*," Joan. De Vigo discipuli, Lugduni, 1525, 12mo; 1530, 12mo; 1538, 12mo; 1582, 8vo.

French—De Vigo en Francoys, Lyon, 1525, 4to; Paris, 1542, 8vo; Lyon, 1610, 12mo.

English—Traheron's Translation, London, 1543, fol.; 1550, fol.; 1571, fol.; together with work of Gale, London, 1586, 8vo.

Italian—With Mariano, Venetia, 1549, 4to; Venet., 1558, 4to; Venet., 1560, 4to; with Daila Croce, Venet., 1576, 4to.

Dutch—Dordrecht, 1614, fol.

Spanish—Madrid, 1717, fol.

In 1872, Fournier, of Paris, reprinted with notes and comments, De Vigo's chapter on "*Le Mal Français*," prefacing it with a serio-humorous and satirical "*lettre d'outre tombe*," purporting to have been written by De Vigo, protesting against the work of the ancients being ignored by the moderns.

makes no specific reference to amputations in his treatise, and what he has to say about "the fluxe of bloude and of the cure thereof" occurs as a part of his directions as to the care of wounds in general (Book III, Chap. II). Practically it is but a repetition of the directions of Celsus given thirteen hundred years before. Celsus' simple directions were these :

"1. Fill the wound with dry lint and over it place a damp sponge pressed down with the hand.

"2. If this does not stop the blood, moisten the lint with vinegar.

"3. If these do not prevail against the hemorrhage, the vessels which discharge the blood are to be seized and tied in two places about the wounded part and cut through.

"4. When circumstances do not allow of this manner, they may be cauterized with a hot iron."—(Grieve's Translation, Book V, Chap. VI.)

De Vigo, in approaching the subject of hemorrhage, first describes a styptic powder, an elaborate and complicated mixture, which he advises the surgeon to have ready. The formula for this was as follows :

STYPTIC POWDER.

R

Flour of Beans and Lentyles and of Mylleduste, ana 3 iii

Of Sanguinis Draconia, of Frankincense, ana 3 iiss

Of Myrrhe, of Aloes, ana 3 ii

Of terra Sygyllata, of bole Armenye, of Gypsum, ana 3 iss

Of Hares' hear cutte in as smal pieces as may be, 3 vi

Of a cobwebbe cut in pieces, 3 iv

Of sponge of the sea, somewhat dried at the feyre or burnt and
brayed, 3 iiiss

Of coralles, of all the saunders, ana 3 iss

Of the juice of the herbe called lingua passerina or knot grass, of the
juice of conferye, ana 3 v

Of dragantum, brayed, 3 iii

The whites of two new layed eggs ; note that to the sayde whites of egges
it is sufficient to putte of the fore rehearsed powder 3 i

Of burnt cotton, 3 x

To secure hemostasis, he directs the surgeon to "mingle the sayde powder wyth the whyte of an egge, and putte thereof wythin and wythoute the wounde. After this ye shall fiyll the wounde wythe Lynyes and stowpes or towe dypped in water and vynegar, then lette the wounde be bounde wyth a convenient manner of byndynge, and bouldsters, which thyng is requisite in thys case.

"Furthermore, it is a singular remedye to laye the sayde powder so prepared upon the mouthe of the veyne, wyth the toppe of the finger holding it a good space uppon the veyne, and pressinge it downe lyttle by lyttle so that the patient be not pained therewith, and incontintlye afterwarde lette it be bounde as we have shewed before."

After this he remarks :

"Sometimes also it is necessary to tye the veyne, and chieflye the arterye, for when it is tyed the place is soon incarned. The manner to tye it is as followeth : You must putte a nedle under the veyne with a cered threde and drawe it together softly, or else ye shall bynde the veyne above and tye the mouthe with a threde.

"Item : in thys case, it is a presente remedye to applye an actuall cauterye upon the place, if it be possible wythout touchinge the synnowes."

While no notable discovery, no marked improvement in surgical methods distinguish his work, with two new and important subjects, however, does his treatise become specially linked ; for the first time in surgical literature now appears in the book of De Vigo systematic reference to the treatment of gunshot wounds and to the symptoms and treatment of syphilis.

The third chapter of the third book, "De Vulneribus," is devoted to the new class of wounds, and, characteristically enough, the subject is approached in an apologetic manner: "Albeit," he says, in the words of Traheron's translation (1550), "the Auncient and later doctours have written nothyng of wounds caused by gunnes and other instruments of fyre, nevertheless we have consydered that it is profitable to declare such remedies as we have proved to be good in this case. And first, we saye by the auctorite of Galen, that he is indede a physycyon or chyrurgyen whych can handle thynges whych hath not been handled before; and can also ryghtly use such thynges as ben taught by ancient doctours."

With this prelude he launches at once into the subject, thus:

"Wherefore we affyrme that those wounds are compound of three kyndes. Fyrste, it is called a bruised wounde because of ye roundness of the stone. Secondly, it is called a brent wounde because of ye fyre. Thyrdly, it is called a venymous wounde by reason of the poudre. And forasmuche as these kyndes be contrary and divers, they cause a wounde to be hard of curatyon. For bruising and burnyng nede moysture and venemnes nede the desyccatyon or drying.

"To come to the true cure, we say by the auctorytye of Galen that when two or more diseases ben joyned together, ye intention of ye chyrurgyen must be to hele ye more dangerous, not utterly forsakyng also the other. But seeing the most dangerous thyng herein is venim caused by the poudre, the principal intentyon shall be to cure the same.

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“There is no better remedy than to use in the sayde wounde an actual cauterie whych may touch all the partes of the wounde, or to applye unguentum egiptiacum after the descryptyon of Avicenna. Also in the stede thereof a man may use a cauteryzation of oyle of elders boyloynge hote, for cauteryzation kepeth a wounde from putrefying, which might come through the bruse of the stone. After the sayd cauteryzation ye chirurgyen shal procede with thynges mollifycatyve, laying about the woundes a defensyve wrytten in the chapter of the cure of fleshye woundes.

“Also ye must after cauteryzation put in ye botom of ye wounde melted butter, hote, with a syring, untill the escare be removed and the ded flesh be sondred from the good, and yf the sayd wounde be in a very synnowy place, after cauteryzation ye shal put into ye same water of barley sodden with earthworms and a lytle holyhocke and red sugre with the foresayde butter and without it.

“Furthermore, if the stone be within the membre, ye must wysely behold the place and remove it, making incision with a rasour or some other convenient instrument, takying hede that ye touch not the synnowes, and afterward ye shal heale ye place according to ye doctrine declard before. We have sene some who have caryed the stone a great whyle, whych thought themselves to be heled, and also the chyrurgyens had closed up the wounde; but many have dyed thereby. For the membre wherin the stone is cometh to putrefaction and to an aposteme called estiomenos.

“Lykewyse we have sene some by the help of chyrurgyens to obteyne perfyte curatyon after that they had caryed the stone a greate whyle.”

An interesting note on the position of De Vigo as the authority in surgery in that age is given by the allusion to him by Paré, the great surgeon of France in the immediately succeeding generation, in his discourse on "Wounds Made by Gunshot" (see Johnson's translation into English, 1678, p. 272). He is speaking of his experiences in 1536, when with the forces of Francis in the expedition to relieve Turin. He says:

"In this conflict there were many wounded on both sides with all sorts of weapons, but chiefly with bullets. I will tell the truth, I was not very expert at that time in matters of Chirurgery; neither was I used to dress wounds made by Gunshot. Now I had read in JOHN DE VIGO, that wounds made by Gunshot were venenate or poisoned, and that by reason of the Gunpowder; wherefore for their cure, it was expedient to burn or cauterize them with oyl of Elders scalding hot, with a little Treacle mixed therewith. But, for that I gave no great credit neither to the Author nor remedy, because I knew that causticks could not be poured into wounds, without excessive pain; I, before I would run a hazard, determined to see whether the Chirurgeons, who went with me in the Army, used any other manner of dressing to these wounds. I observed and saw that all of them used that method of dressing which Vigo prescribes; and that they filled, as full as they could, the wounds made by Gunshot with Tents and Pledgets dipped in this scalding oyl, at the first dressing, which encouraged me to do the like to those who came to be dressed of me. It chanced on a time, that by reason of the multitude that were hurt, I wanted this Oil. Now, because there were some few left to be dressed, I was forced, that I might seem to want nothing, and

that I might not leave them undrest, to apply a digestive made of the yolk of an egg, Oil of Roses, and Turpentine. I could not sleep all that night, for I was troubled in mind, and the dressing of the precedent day (which I judged unfit) troubled my thoughts; and I feared that the next day I should find them dead, or at the point of death by the poison of the wounds, whom I had not dressed with the scalding Oyl. Therefore I rose early in the morning, I visited my Patients, and beyond expectation, I found such as I had dressed with a digestive only, free from vehemency of pain, to have good rest, and that their wounds were not inflamed nor tumefied; but on the contrary, the others that were burnt with the scalding Oyl were feaverish, tormented with much pain, and the parts about their wounds were swoln. When I had many times tried this in divers others, I thought thus much, that neither I nor any other should ever cauterize any wounded with Gunshot."

Vigo's observations upon the new disease, "*De Morbo Gallico*," which formed his fifth book, are so truthful, so accurate, so naïve and fresh, that they alone would suffice to perpetuate the memory of the author and to cause him to be remembered among the great surgeons of the past. They were republished by Fournier in Paris in 1872, with characteristic comments by that syphilographer. If we turn to this chapter of the *Chirurgia*, we find that the author had no doubt as to just when and where the disease first appeared.

In the quaint language of Traheron's translation, he says:—

"In the year of our Lordes, 1494, in the monethe

of Deceber, when Charles the Frenche kynge toke hys iorney into ye partes of Italy to recover ye kingdome of Naples, there appareth a certayne dysease throughout all Italy of an unknowen nature, whych sondrye nations hath called by sondry names. The Frenche men call it the dysease of Naples, bycause the souldyours brought it from thence into France. The Neapolitanes call it the Frenche dysease, for it appereth fyrste when they came to Naples, and so other languages call it by other names, whereupon we nede not greatly to passe, put rather what the nature and cure thereof is. Thys dysease is contagious, chye fly if it chauce through copulatyon of a man wyth an unclene woman, for the begynnyng therof was in the secret members of men and women, with lytle pushes of blewe colour, other whyles of blacke, sometye of whytyshe, wyth a certayn hardnes aboyte the same, whych pustules could not be healed by medycine applyed with in or wythout, but that they wold embrace the hole bodye, wyth ulceration of the generall partes, euer returnyng agayne afthe they were healed, chiefly in the ioyntes, in the arms, vnder the knees, & in the forehead, and welnye spredde through all the body, & yet at thys tyme they begyn eue so, but it is not so contagious as it was at the begynnyng. Furthermore a moneth after the sayd pustules, the patyent was vexed weth great payne in the heade, the shulders, the armes, the legges, after wytch payne, that is to saye after a yeare & more, certayne hard thynges lyke bones were engendred in the patyent, wyth exceeding paine in ye nyght tyme, wych ceased in the daye tyme. For the swagyng wherof, the chyrurgyes admynystred anodine medicines that apease gryefe, and prevayled

nothyng, but the end of the payne was euer corruption of the bone, as it chauceth in the wyndines of ye blackbone, & for ye most part the membres remayned croked and drawen together, through the sayd paynes.

“After a yeare & a halfe, there appered in thys shamefull & abominable dysease, certain knobbles of grosse and flegmatyk matter, rooted after the maner of a whyte chessenut, lyke a chorde or a synowe halfe rotte, whyche were ryped of nature wout helpe of medicine. Wherefore, after theyr brekyng or openyng of them all kyndes of vlcers were sene in them, accordyng to ye dyuersitye of bodyes for in one bodye it is not credible. For in sondry bodyes, sondry accidentes, are wont to be angendred with thys dysease. And I dare say, that al the dyseases that come of a cause antecedet, wherof the chyrurgyens haue made mencyon, may be numbred in thys shameful dysease accordyng to the diuersitie of bodyes. And first to speake of apostemes we haue sene in thys detestable sycknes, all kynde of hote, cholerike, and sanguine apostemes. And also we haue sene great quatitie of colde flegmatyk and melacholike apostemes, & in matters compounde if the bloode be ioyned wyth fleame, and the bloode hauynge dominion, ye aposteme is called flegmon vndemiades, and so of the coinunction of other, as we haue declared in the boke of apostemes in genreall.

“Furthermore, we haue sene in the sayd dysease al kyndes of quyttyres, accordyng to ye dieursities of the iiii. euyll humours. We haue sene deade fleshe drowynge in great aboundaunce, and also greate multitude of glandules, scrophules, apostemes called talpie et topinatrie, wyth corruption of ye bone, in the heade. And moreouer we haue sene al sortes of ye apostemes

called formies, & carbuncles, and cancrenes, to haue ben ioyned wyth the sayd dyseases, and al sortes of vlcers, wrytten by al the doctours, haue bene sene in thys dysease. And if ye vlcers of the sayd dysease be diligently consydréd, they haue participacyon with corrosyue, and putrefactiue vlcers, with creping vlcers, cancerouse, & cancrenouse, virulent maligne, paynfull, apostemed, holowe, & ystulous vlcers, wyth corruption of ye bone, & shelly, with harde lyppes briefly, the sayd vlcers haue an euell proprietie vnknownen to vs, through the malignitic wherof they are harde to be healed, and returne shortly agayne. Lykewyse, in thys dysease all kyndes of paynes may be numbred as the goute in the handes and fete, and of the knees, and sciatica. Item al sortes of euell scabbes, are founde in thys dysease, that is the deade euell, assaphta, and as it were a leprye, salte fleame, in the handes and in fete, skalles, ryngwormes, tetters, &c. Item we haue healed sondrye dyseases of ye eyes, comynge of the pockes, cheslye the dysease called ophthalmia, but it shulde be to longe a thyng, of reken vp al the accidentes, that come to thys dysease. Howebeit, we wyl adde this one thyng that they that are touched therwyth, are subjecte to a slowe feuer, and consumynge, whyche hath brought the patient somtyme to death. The cause of thys dysease, is alwaye primitiue, as by hauynge knowledge of fylthy, vncleane, and pocky women for thyd dysease through hys venymnes and the venymnes of ye pustules, whych chaunce in the priuate partes, is spredde abpoute the hole bodye from ye head to the fete, and corrupteth ye bloud of al the bodye, and produceth pustules, scabbes, and croustye skalles."

Proceeding to the subject of the treatment of the disease in its earlier stages, he says that resolute medicines and such as assuage pain profit little or nothing in this disease; yea, the pains are rather increased more and more, wherefore there was never no such disease known. A little further on he says:—
 “And as to saye the truthe the medycynes lately invented are better in thys dysease than the medycynes of olde wrytters, as for example of payne. Anodyne remedyes whych do swage payne and resolve, profyte nothyng in thys dysease, and I affirme the same of anodyne oyntments, oyles, bathes, fumigations, cerotes and playsters. Howebeit it hath chaunced that I haue healed paynes, pustules, vlceracons and scabbes wythin a weeke, anoyntyng the arms from the elbows and the legges from the knee wyth a symple unction fortyfied wyth a lytle quicksylver.”

He follows with many directions as to diet, bleeding, leeching, purges, baths, and the use of digestive and mundificative topical applications, recipes for which he gives, and finally closes the chapter with the exclamation:—

“And yf the sayd medycynes profite not, nether the payne is cased, but newe vlcers returne often, then ye shall procede wyth other oyntments and cerotes wherin quicksylver entreth, of whyche we wyl speak hereafter.”

In the treatment of the more advanced lesions of the disease mercurial inunctions are his chief reliance.

He says:—“We haue often proved that the payne hath cased and the vlcers haue ben perfytlye mundified by the only applycatyon of the forsayd (mercurial) unction and cerote uppon the armes and uppon the legges.”

The formula for his ointment is as follows :—

R.

Swyne grese, melted.....℔ i
 Oyle of Camomil and of Dill.....aa ʒ i
 Liquid Storax.....ʒ x
 Oyle of Mastik and of Laurel.....aa ʒ i
 Roots of Enula Campana, somewhat brused.....ʒ iiij
 Roots of Walwort.....aa
 Squina, of Stica.....aa a lytle
 Euphorbium, brayed.....ʒ ss
 Odoriferous Wine.....℔ i

Let then seth all together tyll ye wyne be consumed, then strayne them, and adde to the strayinge,

Of Litharge of Golde.....ʒ vii
 Of Frankensense and of mastike.....aa ʒ vi
 Of Rasyne of the pyne tree.....ʒ iss
 Of clere terebentyne.....ʒ i
 Of quyksylver quenched wyth spitle.....ʒ iiij

Melt the oyles and incorporate them al together wyth ʒ iss of waxe and make a liniment.

Another unguent, which he calls a cerote and recommends as being of “more noble” operation than the preceding, and more delectable to the patients, is made as follows :—

R.

Of the oyles of Camomile, Spyke and Lyllies.....aa ʒ i
 Of oyle of Saffran.....ʒ i
 Of Calves' Suet.....℔ i
 Of Frankensense.....ʒ x
 Of Swyne's Grese.....℔ i
 Of Euphorbium.....ʒ v
 Of oyle of Laurell.....ʒ iss
 The fatte of a viper.....ʒ iiss
 Of quick frogges, in number.....vi
 Of washed wormes wyth wyne.....ʒ iiiss
 Of the juice of the rotes of Walworte and Enula Campana.....aa ʒ ii
 Of Equinantum, of Sticados, Mugwort.....aa m i
 Of Odoryferous Wyne.....℔ ii

Let them seth all together tyll the wine be consumed, then strayne them and put to the straying

Of Litharge of Gold.....℔ i
 Of clere Terebentyne.....ʒ ii

Make a cerote wyth suffycyente whyte waxe, after ye maner of a sparadrap, addynge in the ende of the decoction Liquid Storax. Then take the cerote from the fire and stirre it tyll it be lukewarm, and afterward put thereto

Of Quicksylver, quenched wyth spittle..... ʒ iiiii
and stirre it about well tyll the quicksylver be incorporate.

Elaborate recipes are given for mouthwashes, and for cicatrizing lotions, for laxatives and purgatives. By these various remedies, he says, "we have healed many," but he continues:—"Also ye shal observe that when thys dysease in confyrmed, it is very seldome healed but wyth a cure pallyatyve. And as concernyng his confyrmation it hathe no determyned tyme, but by signes, for in some bodyes it is confyrmed in VI monethes, whych seldome chaunceth, in some wythin a yeare, in some wythin a yeare and an halfe. And we call this dysease confyrmed when in processe of tyme these accidentes are founde therin, namelye, swellynge, hardnesse, pryckynge, virulent and corrosyve vlcérations, wyth corruption of the bones, payne of the joyntes and forehead, etc. These are the accidents and convincing signes that the dysease has become confyrmed.

"And so, by the grace of God, whose name be blessed, the doctryne of the present chapter is completed."

A most notable feature of this book is the frequent introduction of pious ejaculations which characterize it; each book, and many of the individual chapters of the book, are closed by such ascriptions of praise to the Deity as the one just given. Thus the end of the first book is in these words:—

"Finit liber primus de Anatomia ad laudem omnipotentis dei." And, opening at random, we find the conclusion of the tenth chapter of the second book, *De Apostematibus*, is as follows:—

"Et sic deo dante completa est doctrina presentis capituli: cujus nomen sit benedictum."

Turning over to the conclusion of the third book, *On Wounds*, we find the following:—

"Finit liber tertius chirurgie de vulneribus a capite usque ad pedes. Ad laudem dei omnipotentis ejusque gloriose genitricis virginis Marie: quorum nomina in secula seculorum sint benedicta." ("Here ends the third book, the surgery of wounds from the head to the feet, to the praise of Almighty God and of his Virgin Mother, the glorious Mary, whose name be blessed for ever and ever.")

This spirit of piety seems to have greatly impressed his English translator, from whom I have already quoted to such length. Theron, in his dedication of his book "to the earnest favorer of all good and godly learning, Master Richard Gracie," after many pious observations and a high appreciation of the character of John De Vigo and of the value of his book, concludes as follows:—

"Albeit that both you desire and I delyte more to travalye in the holye wryttynges, yet I fear not but that this book beyng so necessary for the commune weale shal be unto you ryght pleasant, for after the knowledge of our salvation whych holye and onely resteth in godde's anoynted kinge, we may conveniently procure, not the lustes and pleasures, but the requisite helth of our bodies, that we may be more able to serve our turns and to labour in the Lorde's

vyniarde. Yea, and I can not telle whether anye man hath receyved the true knowledge and spirite of Christ, that pitieth not the great sicknesses and diseases wherein we are wrapped on every syde. For this cause I have thought it not unprofitable (let some busy speakers rather than doers babble what they liste) to bestowe some labour and tyme in translatyng this booke whyche containethe so many goodly remedies for the diseases that communelye and justelye happen unto us. Whyche thyng, if it shall please your ryghte goodlye judgement, and suche as you be, the barkynges of other shal lytle trouble me. But nowe I will hynder you no longer from the readyng of John Vigo his workes."

This from Traheron, whom we have to thank for putting at the disposal of the English reader, in his own tongue, the book of Vigo. One rises from an examination of its pages with a better appreciation of the status of Surgery in the generation immediately preceding that of Paré, and full of interest in the character of the most amiable and attractive author.

A Modern and His Times.

BY C. N. B. CAMAC, M.D.

Amid the echoes of ancient lore and bygone literature which reverberate in Charaka's Sanctum, "Telephorus," as you have been pleased to call the writer of the following review, dares to sound a *modern* note.

In the voluminous achives of the Charaka Club he has sought for that mystic line which divides yesterday from the hinterland of time, in order to determine if the subject of the following discourse would find himself on the near or far side of that meridian of the centuries. In this search I came upon the "Canticles of the Old Anatomists," chanted with Gregorian richness of tone by our erstwhile President; upon "Epicurus;" the "Thirteenth Century Physician;" "Sir Thomas Browne," and then, the youngest, "Garth," and I said, "but my subject is even younger." Thereupon I searched the archives for attributes other than antiquity, by which a bygone might be considered worthy to sit as a *Spirit Guest* at a Charaka feast. I found that, to be thus honored, one need not have his altar in the Pantheon or his tablet in Westminster. He must only have figured in that long line of contributors, be his donation ever so little, or he must have been a Boswell to some Johnson, or a Paracelcean who raised obstructions and problems for greater minds to overcome or solve. I concluded that all those who had

thus been subjects of Charaka discourses were figures in the history of thought, whose day and generation were sufficiently removed from modern times for error and prejudice to have withered, and for truth only to remain.

So eminently, by his life and writings, does the subject of the following review fulfil this requirement, that I recommend him for honorary degree to the College of Charaka. In support of this claim I exhibit this volume,* which is a private publication containing information (otherwise unobtainable) regarding the personality of this historic figure. A brief review of this book and some facts regarding its writer is what I wish to present.

In the archives of the Historical Society of Pennsylvania there have long been certain documents and private papers which for political and family reasons were denied to all investigators even for purposes of verifying historical data. Some of these records belong to the Historical Society, others are in the possession of the Rush family. Concerning the political life of Benjamin Rush, much theory went abroad, and whisperings were heard about the cabal, about personal enmity towards Washington, about opposition to his government, and, finally, that Rush was a personal seeker for fame in the midst of a national struggle.

To-day the great events in which Rush took part have taken their place in history and the petty gossip

* A Memorial containing Travels Through Life or Sundry Incidents in the Life of Dr. Benjamin Rush, born Dec. 24th, 1745 (Old Style), died April 19th, 1813. Written by Himself. Also Extracts from his Common Place Book, as well as A Short History of the Rush Family in Pennsylvania. Published privately for the benefit of his Descendants. By Louis Alexander Biddle, Lanoraie, 1905.

and criticism to which all men of strong purpose and conviction are subjected has melted under the penetrating rays of unbiased investigation. What to small minds were only heaps of stone can now be seen as a finished edifice, which in the mind of Rush and men of his proportions stood erected in all its fairness. This was not accomplished, however, without a sacrifice on the part of these men of ideas and ideals, of themselves, their fortunes, their happiness and sometimes their lives. America to some is synonymous with *Practical*, but unless the dreamer—the man who sees visions, who looks beyond—co-operates with the man of brick and steel our national character will be soulless. From the log cabin to the palace, from the hamlet to the metropolis, the spark which keeps the inward fire aglow is imagination.

Rush was a thinker, whose thoughts combined the practical with the imaginative. Having thought long and deep with a reverence and fear born of a religious nature, he acted with force and determination. Shallow thinkers, failing to gain a hearing for their hastily formed opinions, attempted to overthrow his strong conviction with calumny. Thus irritated, Rush several times retorted, and afterwards, seeing the ephemeral nature and ignominious weapon of his opponent, he deeply regretted having given way to the impulse. His expressions of regret are full of charity towards his tormentor and of a resolve to be master of himself in a like situation in the future. When convinced of error by sound argument he welcomes the new thought and proceeds to adopt it, though, as in one instance, it is a line of thought and action completely different from that which he had formerly held and worked upon. It

is not difficult to see how under these circumstances records accumulated which viewed singly would give confusing impressions regarding the character of Benjamin Rush. Time would surely bring about the passing into obscurity of these petty incidents and the indestructible facts would remain. It seems that time has now accomplished this, for the great-grandson of Dr. Benjamin Rush, Mr. Louis A. Biddle, at present living in Philadelphia, set about the task of looking over the papers belonging to the Rush family and of publishing, to a limited number, the result of his labors as a memorial to Benjamin Rush. The volume which I have just handed to our President is one of these copies, a gift from Mr. Biddle, which with his permission I have reviewed.

A little more than a year after this book appeared, I made inquiry for it at the Philadelphia Library and learned that they had not yet procured a copy. On inquiring at the Historical Society of Pennsylvania I found they had a copy but that the papers in their possession had not as yet been reviewed for publication.

Regarding the book before us, this limited distribution is as Rush would wish, for the book (and this must be remembered in forming judgment upon its contents and manner of record) was written by him—*not for publication*. It contains matter of a semi-private nature, the diary-like jottings of public events, many of which, like Cæsar, the writer "saw and some he was." They are records of national doings and portraits of men of action and influence which Rush, viewing as a spectator, saw in the true light of events and persons which in time were to be materials out of which

an important part of the world's history was to be written. Unlike Rémusat and O'Meara, the writer never went beyond the crude notes made in the midst of a busy medical and later political life, nor did he separate from among these the personal and family references which at the time of their occurrence were eminently suitable for this "Common Place Book," but which to-day by the side of records of national historic importance appear trivial and at times egotistical. It is, however, this very interweaving of private and public record which gives the volume a value at once biographical and national.

In reading these notes we imagine ourselves to be sitting with Benjamin Rush in his library; the daily occurrences are taking place; thus, as we converse on various topics, Dr. Rush's son arrives (evidently from a journey); the son seems constrained and the greeting which we, as guest, receive is formal and we note that something is wrong; the son is not the sprightly, light-hearted man who left Philadelphia some years ago. Dr. Rush merely tells us that his son has just arrived from New Orleans and the conversation turns on the journey. One hundred years later we read in his diary (p. 202): "This day my son John Rush arrived from New Orleans in a state of deep melancholy brought on by killing a brother officer in the Navy in a duel between two and three years ago, who was his intimate friend."

Or it is July 12th, 1804, and Dr. Rush meets us on the street, greeting us with the sad news that Alexander Hamilton has just died of his duel wound, and that night the note in the diary reads (p. 186): "Died of a wound received in a duel the day before

from Coloner Burr, Alexander Hamilton, Esquire, the Aide of Washington in the field, and his principal Councillor in the Cabinet while President of the United States. He was learned, ingenious and eloquent, and the object of universal admiration and attachment of one party and of hatred of the other party which then constituted the American people." And again on May 15th, 1810, we find the following entry (p. 204): "This day saw Rev. Mr. Hooker, who informed Rush that a certain Timothy Edwards had been requested to call upon the minister in Connecticut, "to set apart a certain time once a week to pray in confederacy for the conversion of Colonel Burr, now a vagabond in Europe."

On July 3rd, 1794, we are dining with Dr. and Mrs. Rush; Dr. Priestley, the physicist and chemist, is also a guest. It is just a month since Priestley landed in New York. At dinner he relates (p. 147) "many instances of the persecuting conduct of the Church and Court towards him. . . . Dr. Parr, an Episcopal Minister, for having only written a few lines in his favor, was threatened with having his house destroyed, and was forced to remove his library to Oxford for safety." The conversation turned to matters religious, and Priestley acknowledged (p. 148) . . . "a belief only in a being of God and a particular Providence . . . he viewed the doctrine of philosophical security with horror. He inclined towards the close of his life to the doctrine of final restitution instead of annihilation. I often accused Dr. Priestley of changing his opinion on that subject, for (he) inclined in conversation to the annihilation of the wicked from the analogy of some plants and animals which had perished forever on our globe."

In February we dine again and Dr. Priestley is a fellow guest; he speaks of Heberden being his particular friend (p. 165), and that from him he received "nearly £20 a year to assist in conducting his experiments." Priestley is now in his 68th year and he complains of his memory becoming very defective. On February 6th we find the following (p. 165): "This day died in Northumberland Co., Penn., the Rev. Dr. Priestley." There follows a public notice of his death.

Referring to the year 1801, when Priestley was in ill health under the care of Dr. Rush in Philadelphia, this obituary notice states that (p. 181) "during this period of general debility he was busily employed in printing his Church History and the first volume of his notes on the Scriptures and in making new and original experiments." At this time "he wrote the pamphlet of 'Jesus and Socrates,' composed and reprinted his essay on Phlogiston."

The trend of the mind of this remarkable man is interestingly shown in these few extracts. Among the notes of Priestley we find the following epitaph, which Rush tells us is taken from an English paper (p. 184):

" Here lies at rest
In open chest
Together packed most nicely
The blood and veins,
The bones and brains
And soul of Dr. Priestley."

(Rush makes no comment.)

Let us imagine ourselves, in the year 1802, one of the managers of the Pennsylvania Hospital. It is January 4th; a meeting of the board is in progress;

Dr. Rush rises to address the meeting; all are present "excepting Dr. Barton." Rush proposes (p. 171): "First, to grant us a man of education to superintend the lunatics, to walk with them, converse with them, etc., etc., in order to awaken and regulate their minds." Ten years before, March 1st, 1792, the following note was made (p. 133): "Yesterday a vote passed the lower House of Assembly to allow \$15,000 to build a mad-house. The idea of this building originated last winter in a convention with Bartholomew Wister in the Hospital and the public mind was first awakened to it by a short publication I threw out in Dunlap's paper. I mention this to encourage my boys to expect great things from slender beginnings and weak instruments." In these two notes we mark the beginning of the American movement for the rational care of the insane. What Pinel did in France for the insane, Rush may be considered to have instituted in America.

On June 27th, 1804, we are taking tea with Dr. and Mrs. Rush; Baron Von Humboldt is the guest of honor. The note upon this occasion is as follows (p. 185): "The Baron, with his two fellow travellers . . . drank tea with me this afternoon. He is a Prussian nobleman of great talents and erudition. He has returned from spending six months in South America, every part of which he has examined with the eye of a philosopher, naturalist, physician and a man."

On another occasion we are called upon to inspect a ring, which Dr. Rush has just received. It is September 2nd, 1811. The ring is a gift from the Emperor of Russia (p. 210), "as a mark of the satisfaction of the Emperor with my medical works presented to him by Mr. J. Q. Adams, . . . Minister from the United

States to the Court of Petersburg." One asks to-day, "In whose keeping is this ring?"

The next day occurs this note (p. 210): "Three packets have arrived from England; two from London in Philadelphia and one in New York from the same place and several from Liverpool, . . . without bringing me a letter or even a message from my son, Dr. James Rush, and my daughter, Mary Manners, who were both in London at the time those vessels sailed. The distress I have felt in being thus disappointed, neglected and ungratefully treated by two children, upon whom I have lavished acts of paternal kindness has been to me very great. It has prevented my sleeping and impaired my health. Lord, lay not this conduct to their charge." And October 11th—about a month later—the following (p. 210): "This day I received a letter from my son, Dr. James Rush, dated New York, October 8th; informing of his arrival there with his sister and her two children, after a very tempestuous and dangerous voyage from Bristol of eight weeks. Had they perished at sea their family would have been ignorant of their fate . . . for they had neglected to inform them of the ship in which they had sailed as well as the time of their sailing. Blessed be God for their preservation."

There is in the three notes just quoted a charming insight into the character of the man: the simple record of the receipt of a gift from one of the potentates of Europe and the deep concern regarding the welfare of his children. A somewhat similar insight is gained by reading the following, which has a national as well as a family interest (p. 211): "This day it was announced in the 'National Intelligence' that my son

Richard Rush was appointed Comptroller of the United States, and to my great astonishment and distress . . . he set off for Washington to accept of it." Dr. Rush's reason for being thus distressed he gives in the following: "First, the degradation to which such an office exposed a man of literary and professional talents. It was an office that could be filled by any clerk of a bank. Second, the vexations and poverty of political life. Third, his comfortable establishment and excellent prospects in Pennsylvania, the State of his ancestors and family. Fourth, the sickliness of Washington and the insufficiency of the salary to support a growing family. Fifth, the dishonor which he would do to his understanding by such an act. Sixth, my age, also my young family, which requires his advice now and would still more require it after my death. I offered to implore him not to accept . . . upon my knees . . . Oh my son, my son Richard, may you never be made to feel in the unkindness of a son the misery you have inflicted upon me . . . He was dissuaded from it by all his friends and was blamed for it by most of the citizens of Philadelphia who knew him."

Had this devoted but anxious father been able to look ahead he would have seen that "the misery he felt his son was inflicting" upon him was to be turned to pride above that felt for any other of his children. This appears in the following record (not made by Rush) of Richard's career (p. 247): "Appointed Attorney General of the United States by President James Madison . . . afterwards acting Secretary of State. . . . In 1817 Minister Plenipotentiary to the Court of St. James, where he remains nearly eight years, when he was recalled by President John Quincy

Adams . . . to the office of Secretary of the Treasury . . . Subsequently he went again to England to collect and receive the Smithsonian Legacy, and after some interval was appointed Minister of France."

The notes of medical interest to be found in the "Common Place Book" abound in names familiar in medicine in Europe and America. Among Rush's class-mates at school, for example, was John Archer (p. 16), who was the recipient of the first medical degree in America (J. H. H. Bulletin, vol. X, p. 141). And a fellow passenger in crossing the ocean was Jonathan Potts (J. H. H. Bulletin, vol. X, p. 143), another of the same class in medicine.

Rush was a graduate in arts September, 1760, of the College of New Jersey (Princeton). There are many references to the College, its Presidents, teachers, teaching and development, which are of historic interest to Princetonians. In 1761 he began the study of medicine. After the custom of the times he was apprentice to Dr. John Redman, who had (p. 19) "the most extensive business of any Physician in the city, and as he had at no time more than two apprentices he kept them constantly employed. . . . In addition to preparing and compounding medicines, visiting the sick, and performing many little offices of nurse to them, I took exclusive charge of his books and accounts." It is difficult to see how, in later years, a standard of medicine was maintained with this practical part of the medical training abandoned and the student as yet not admitted to the hospital wards.

Boerhaave, Van Swieten, Sydenham and Cullen are frequently quoted as the medical authorities, but

many and bitter were the disputes between the supporters of these various masters.

From February, 1761, to July, 1766, he (p. 19) "was absent from his (master's) business but eleven days and never spent more than three evenings out of his house." Dr. Redman was visiting physician at the Pennsylvania Hospital (p. 20), "by which means (Dr. Rush) was admitted to see the practice of five other physicians besides his own (Redman's) in the Hospital." Here is a five years' course superior in point of practical experience to the best medical curricula of to-day.

During these five years (p. 20) "the medical school of Philadelphia was founded by Dr. Shippen and Dr. Morgan." Having completed the term of apprenticeship, Rush went to Edinburgh to continue his studies. Here he came under the influence of (p. 23) "Munroe, Cullen, Black, Gregory and Hope," and in June, 1768, received from the University of Edinburgh his degree of M.D. Among his fellow students was (p. 25) "Dr. Brown, the ingenious author of the Brownonian system of physic." The names of other Europeans (p. 25) "all celebrated in the Republic of medicine, are mentioned, but who to-day are known only to the student in Medical History. From Edinburgh he went to London to continue his studies. Here (p. 31) "he attended the lectures and dissections of Dr. Wm. Hunter and Mr. Hewson." "While I was dissecting a body by his side Mr. Hewson succeeded in an experiment which proved the existence of lymphatics in fishes." At St. Thomas Hospital he saw an immense variety of diseases and practice. Dr. Akenside, the poet, was one of the attending physicians. "He was distant and formal to

the students." Dr. Huck introduced Rush to Sir John Pringle, by whom he "was invited to attend a medical conversation party held once a week" at Pringle's house. He attended a similar meeting of physicians at "Dr. Huck's own house, on another evening of the week, and often dined with him in large and highly polished companies." He was introduced to Dr. John Fothergill, who gave him (p. 33) "a general invitation to breakfast with him. I visited him once a week at eight o'clock in the morning. At nine he always went out." One regrets that this kind of intercourse between prominent physicians and young medical students is not more common in our day.

From London he went to Paris, where he visited all the Public Hospitals but did not enter as a pupil (p. 43). "The Hôtel de la Charité was remarkably neat and clean and the patients well accommodated. The Hôtel Dieu was crowded and offensive. I saw four persons in one bed" (p. 44). He is most interested in the Foundling Hospital: "18 or 20 children were admitted . . . the night before I saw it. The door . . . is always open and the basket . . . placed near it . . . A bell is rung to give notice to the keepers . . . meanwhile the person who brings the infant disappears . . ."

From Paris he returned to London by coach, and during the journey has the following experience (p. 48): "About eight o'clock next morning the postillion said he heard "call for help" from the neighbouring wood. Rush went to investigate and found "a poor woman lying upon a blanket . . . in labor." In ten minutes, with the assistance of a lady travelling in the coach, Rush "delivered her of a fine boy." In about

ten minutes her husband came to her with two women whom he had picked up in the neighborhood, one of whom took the child. They drove this woman to a village and left her comfortably housed and gave her money. When Rush reached London he mentioned the incident to his landlady, who made up a bundle of clothes and sent them to the woman. Rush concluded this little story with the following: "I was informed two years after that she had called to see me . . . and that she had called her little boy by my name."

In 1768 he set sail for New York. There is a quaint dignity in his reference to sea sickness, in which one, however, discovers a sense of humor, in the following, which he quotes as a saying of Franklin (p. 51): "There are three classes of people who do not care how little they get for their money, viz., schoolboys, sermon hearers, and sea passengers." While at sea he studied German. As the journey lasted from May 26th to July 14th we are not surprised that when land was sighted he (p. 59) "began to understand what he read with but little aid from a translation or a dictionary." His mind now turned to means of establishing a practice and reputation, which he sums up as follows (p. 53-54): "(1) The patronage of a great man . . . (2) The influence of extensive and powerful family connections . . . (3) The influence of a religious sect or political party . . . (4) By attending the poor," which he considered the only course open to him. The third and fourth methods are extensively considered and the Quaker is mentioned as the most influential sect at that time. The following note occurs and marks the antiquity of two principles tardily adopted by the physicians of a later date (p. 55): "I have seen

the Suttonian manner of *giving* and *treating* smallpox in London and introduced it into our city . . . This consisted of making small punctures instead of a long incision. It was very popular and brought me many patients . . . I had learned likewise from Dr. Cullen to give . . . few medicines . . . and to rely upon diet and drinks." . . .

In 1771 we mark the beginning of his interest in national affairs in (p. 58) "An Address to the Inhabitants of the British Colonies upon Slave Keeping," in which he endeavored to show the "iniquity of the slave trade." A reply was published by a prominent Slave Trader and Rush issued a rejoinder, the consequences of which (in Rush's estimation) was that (p. 58) "it (writing upon this cause) did me harm, by exciting the resentment of many slaveholders against me. It injured me in another way, by giving rise to an opinion that I had meddled in a controversy that was foreign to my business. I now found that a physician's studies and duties were to be limited by the public, and that he was destined to walk in a path as contracted as the most humble mechanic. The influence of these publications was but transitory upon my business. It continued to increase, so that in the year 1775 it was worth about £900 a year, Pennsylvania currency."

In 1780 he suffered from the "prevailing epidemic of the season . . . breakbone fever," probably malaria.

Teaching positions now began to come to him. A month after his arrival from Europe he had been appointed Professor of Chemistry in the College of Philadelphia (p. 56), and in 1789 he was appointed successor to Dr. Morgan in the Chair of Medicine

in the College (p. 62). He notes that his teaching is much assisted "by conversation with my pupils."

In 1791 the College of Philadelphia was joined to the University of Pennsylvania and Rush was elected Professor of the Institutes of Medicine and of Clinical Practice (p. 68). "The cases which were to furnish materials for clinical lectures were to be selected from the Pennsylvania Hospital." Physiology constituted an important part of this teaching and this subject had not been followed by Rush. There is much to be read between the lines in the following note (p. 68): "I accepted . . . with great diffidence and considered it . . . a sacrifice of interest and reputation, to a desire of promoting harmony among the professors. . . . I had neglected no part of my . . . studies so much as Physiology and . . . well knew the difficulties and controversies which hung over that science."

In 1793 came the terrible yellow fever scourge. Of this, Rush, writing in later years, says: "The lapse of years had not much lessened the painful recollection of the events of that melancholy year. I have described them as far as they relate to myself, in a narrative of the state of my body and mind during the prevalence of the fever, which is subjoined to an account of it. Other events might easily be made to swell that narrative; but I forbear to record them."

In 1786 he records the establishment of the first Dispensary in Philadelphia and probably in America (p. 64).

In such a busy life as his evidently was, the following notes on the way in which he ordered his time are of interest. He never went out before 9 or 9.30

and sometimes 10 o'clock A. M. By this means he "arranged the business" of the day. "I lost no time in my own house." The spare moments were spent in reading and answering letters "or such business as required little abstraction of mind" (p. 65).

From the year 1797 his medical practice "sensibly declined. I had no new families except foreigners, and many of my old patients deserted me . . . No ties of ancient school fellowship, no obligations of gratitude, no sympathy in religion or philosophical opinions were able to resist the tide of public clamor that was excited against my practice. My name was mentioned with horror in some companies; and to some of the weakest of my brethren false tales of me became a recommendation to popular favor" (p. 73). That *political* feeling was the dominating influence at that time history and biographies attest, and it is likely that this resentment was more political than medical or personal in nature. Indeed, the next note bears out this impression. Rush tells us that owing to the depleted state of his affairs he was compelled to apply to the President of the United States (Adams) for the office of Treasurer of the Mint. There were about forty applications. Persons remonstrated with the President, "urging that I was a French Democrat. Even Mrs. Adams was applied to, to use her influence with the President against me." Rush adds that when he received the appointment the President "took me by the hand and said . . . you have not more pleasure in receiving the office than I have in conferring it upon an old Whig" (p. 74).

Again, he tells us that "a jury fined Wm. Cobbett \$5,000 for his publications against me. He (Cobbett)

had at this time removed to New York, where he vented his rage in a number of publications . . . in his newspaper, but with many additional falsehoods. I had been too much accustomed to defamation and ingratitude to be affected by them, in the degree that was expected. I attended my patients, and applied to my studies while they were circulating with my usual punctuality and industry. I drew upon the comforts and supports with which Christianity abounds, to those who suffer persecution in the cause of truth and humanity, and while my enemies exulted in the ruin which they supposed they had brought upon my character, I was favored with such composure and satisfaction of mind, such confidence in the future justice and goodness of heaven towards me, as enabled me to treat all the slanders against me with silence. In the course of a few months they were neglected and forgotten. In this instance I experienced the truth of a remark I had often heard made by Dr. Witherspoon, that scandal dies sooner of itself than we could kill it."

Thus is interwoven the historic and personal, the biographical and family record, and it was undoubtedly this intermixture which led Mr. Biddle to announce upon the title page of the Memorial, that it was published "privately for the benefit of his (Rush's) descendants."

The quotations thus far given have a less broad interest than those which one would select from that portion of the book which deals with Rush's national and political career. Himself a signer of the Declaration of Independence and an observer and intimate of the other signers, a member of the Congress and an active participant in the War of Independence, his ob-

servations are of historic interest. For a Medical audience, however, I have selected the medical portion of this "Common Place Book." Moreover, the Editor of the Charaka Volume is armed with a *word register* and reminds *Τελεσφόρος* that *τελεσφορεῖν* is etymologically close of kin. So with this suggestion I "make a finish," thanking the gods for their patient attention to my discourse.

A Neglected Worthy—Andreas Cesalpino.

BY JOSEPH COLLINS.

While walking through the narrow streets of the quaint old Tuscan town, Arezzo, one Sunday morning in May, my eye was attracted to a memorial tablet set in the side of a house in the Via Cesalpino, which bore this legend :

Qui Abito Andrea Cesalpino, .
Scopritore
della Circolazione del Sangue
E
Autore Primo
Della Classificazione delle Piante.

[Here lived Andreas Cesalpino, the discoverer of the circulation of the blood and the first author of a classification of plants.]

For a moment I was nonplussed, for it had been stamped upon my brain by many Harvey lectures, and dinned into my ears by many pro-Harveian voices, that the Englishman whose name has been immortalized by the publication in 1628 of "*Opusculum aurium*," as Haller calls it, entitled "*Excercitatio anatomica de Motu Cordis et Sanguinis Animalabus*," alone deserved such designation. In a vague way I recalled that many Italians whose names are preserved in the annals of medicine had something to do with this remarkable discovery, and particularly the name of Columbus seemed to have adhered, but only because it was a definite associated memory.

On reaching Florence, where book-shops and libraries would facilitate the search, I determined to look into the matter, and I read first a short life of Andreas Cesalpino written by Giambattista Brocchi. Since then I have read many others, and by writers of different nationalities. Signor Brocchi gives a very temperate and praiseworthy account of his countryman.

The priority of Cesalpino as the discoverer of the circulation is upheld, for instance, by his compatriot Ceradini (1876), [who stigmatizes Harvey as an intellectual pirate.

I am equally convinced that Cesalpino gets his full merit of renown from the world and from Italy, for although he had a knowledge of the circulation of the blood which approximates that of to-day in its leading features, it made no profound impression upon him and he made little effort apparently to disseminate that knowledge or to point out its inestimable importance.

Like many an original thinker before and after him, instead of fighting the right of way into a realm of new thought, he endeavored to reconcile his advanced views with the accepted teachings of his contemporaries. In the 17th chapter of his book, *Quaest. Med. Lib. 11*, he says that during sleep the blood flows back to the heart through the veins. He also acquaints us with the fact that the vein swells up below the ligature, in venesection, and that the first blood escaping from it is dark, later on becoming lighter and arterial.

Here and there are to be found passages in the writings of Cesalpino, and particularly in the fifth book

of the volume entitled "Peripatetic Questions," published in 1569, and also in his book, "Medical Questions," published twenty-four years later, which conclusively prove that Cesalpino had a definite conception of the circulation of the blood. He shows that the blood is carried from the right ventricle of the heart to the lungs by means of the arterial vein, and that it returns to the left ventricle by the venous artery, that the blood passes from the left ventricle into the aortic artery, and after having circulated throughout the body is carried back into the right ventricle by the vena cava. Thus there is in each ventricle a vein which carries the blood, and an artery which receives it in order to carry it elsewhere, and it is therefore necessary to call that in the right ventricle an artery which the ancients called a venous artery), and that in the left ventricle a vein (which they called an arterial vein).

In his reflections on the phenomena that follow the application of a string to the arm, such as before the operation for phlebotomy, he says: "The veins are vessels which do not receive the blood directly from the heart, but they bring it to the heart from distant parts of the body by means of the vena cava. From the heart the blood goes to the lungs, and from the lungs back again to the heart and then from the heart, by means of the aorta, it goes all over the body." His description of the valves of the heart shows that he had a conception of their mechanism.

Many commentators on his life and his writings, such as Hamilton, in his history of medicine, say that Cesalpino believed the blood moved backward and forward in the same vessel, but as far as I can see

there is no justification for such a statement. On the contrary, it seems to me from an examination of his writings—with the aid of others who are more versed in the languages in which they are written than myself—that Cesalpino made no such claim. On the contrary, it appears that he had something approaching a conception even of the connection between the arteries and the veins, *i. e.*, the capillaries. For instance, in one section he describes “natural calore” passing from the arteries into the veins by means of connections effected by very small “boccucce,” which connection is called anastomosis. It is, of course, a fact that in this quotation he does not use the word blood, but he uses the expression “natural calore.” But it has been noted that in his article about the blood he often uses the word calore or spirito interchangeably with the word blood (paragraphs 20-21-22).

Cesalpino was a rabid Aristotelian, and there is no doubt whatsoever that he subscribed to the statement of Aristotle that the blood leaves the heart and goes back to it, to and fro, like the sea of Euripo. This, however, is no reason for concluding that Cesalpino meant these two opposite movements took place in the same canal. On the contrary, it seems to me that such an assumption would contradict the theory that he promulgated. The truth of the matter is that Cesalpino apparently knew the circulation of the blood just as Harvey did, but he did not know that it was a matter of very great importance. Two thousand years before Cesalpino, Plato had stated in his essay, “Timaeus,” that the gods established the heart, which is both the foundation of the veins and the blood which is impelled through all the members of the body in a circular

progression. Yet this statement of the circulation of the blood, although it is very much as we understand it to-day, had no effect upon physicians whose learning has served to publish their names until the time of Harvey.

Andreas Cesalpino (1519—1603) was born in Arezzo, a hilltown of Tosceana, Italy, a short distance from Florence, the birthplace of more famous men than any city of its size in the world. In his early youth he went to Pisa to study botany under Ghini, who was the director of the public gardens in Italy, and whose successor as instructor in medicinal botany he became. Cesalpino soon added the study of medicine to his investigations in botany, and in a few years he became professor of medicine in the University of Pisa. After Ghini's death he became director of the Botanical Garden in Pisa.

His volume entitled "De Plantis," which was based upon a personal intimate knowledge of 1,520 plants, gave him a great reputation and this reputation was apparently much enhanced by his defence of the Aristotelian doctrine against the teachings of Galen, which were at that time at their height. I believe that the inscription on the tablet in his house in Arezzo, proclaiming him the first author to give a classification of plants, is correct, for despite the fact that he gave only Tuscan names to the different species and that his descriptions are very brief, all writers on the subject point out that he was the first to compare the seeds of vegetables to the eggs of animals. He pointed out that there is in the egg a little particle from which the animal is developed, all the rest of the egg serving only for the nutrition of it, and that with plants

it is the same, the principal part of the seed being that from which the root or jet comes and the rest of the seed serving only for its nutrition. This comparison of the grain of plants with the egg of animals is not exactly in keeping with modern theories, but it marked a step in the progress of our knowledge concerning botany which has appeared worthy of note to many distinguished writers. Botanists have honored his name by giving to a genus of plants the name *Cesalpinia*. He divided plants into fifteen different classes and wrote a book about each class. He is said to have been the first author who established the method of distinguishing the family of plants by the parts of fructification. His fame in this field is generally conceded, and he has been called the greatest botanist of his century.

He left Pisa in 1592, a man past seventy years, to accept the chair of medicine in the University of Rome, a position offered him by Pope Clement VIII., who wanted him for his personal physician. Here he wrote his book entitled "*De Metallicis*." The first two books were devoted to a consideration of fossils, and the third to metals. Later he published, among other works, a volume entitled "*Universal Practice of Medicine*," which was really a rehash of the doctrines of the Greeks and Arabs, containing nothing of Cesalpino. His work entitled *Speculum artis medicae Hippocraticum* contains some good observations on diseases of the heart and chest, and on lues.

In addition to his researches in medicine, botany, and physiology, he wrote a book about demons, in which he pointed out that the evil-eye and other

manifestations of magic can be cured with natural remedies.

As a mere boy Cesalpino is said to have shown such mental independence, that no penalties availed to bend the course of his brilliant flow of thought into the established grooves. At the same time he is rather an interesting individual from the point of view of our distinguished fellow-member who maintains that no work done after thirty years of age ever contributes to the advancement of the world. He wrote his book on "Peripatetic Questions" at the age of fifty; one on demons at the age of sixty; one on plants when he was 64; and the one on medical questions when he was seventy. I have not been able to find out very much about the character of his life in Rome and one can only judge of what it was from the knowledge of the period and the medical practice generally. It is said that he devoted his life entirely to science (which is perhaps not so surprising, when we remember his years), and dedicated his entire income to the furtherance of knowledge and the benefiting of humanity. He does not seem to have had any great vogue as a practitioner, nor does his book entitled "*Sulle Facolte dei Medicamenti*," published when he was eighty-four years of age, indicate that he had any remarkable capacity in that direction. He died at the age of 84 in Rome (1603).



EPICURUS

Epicurus and His Ethics.

BY GEORGE LINCOLN WALTON, M.D.

In an analysis of Ibsen and his plays, a recent critic* refers to Peer Gynt as "the exposition of the epicurean philosophy and all the evils which come in its train." "Peer Gynt," he says, "gives himself up to a life of pleasure, is absolutely sufficient unto himself, caring not for his duties to society nor the right of others."

This represents the prevailing idea of the life and philosophy of Epicurus. Even so learned a man as Oliver Wendell Holmes† was guilty, through inadvertence, perhaps, of the following statement:—

"There is that glorious epicurean paradox:— 'Give us the luxuries of life and we will dispense with its necessities.' "

Again, I have the picture of a dashing Frenchman, whom I cannot indentify, who comes down to posterity with the statement:—

"Epicure estoit un Philosophe qui estoit estime de son temps, il mettoit tout le bonheur dans les volupte."

Fortunately there is more reliable information concerning Epicurus and his doctrines, not only through such few of his writings as are preserved, but:

* Rogers. Lippincott's Monthly Magazine, April, 1907.

† Autocrat of the Breakfast Table.

also, and especially, through his chief commentators, Lucretius, Diogenes Laertius, and in more recent times, Gassendi.

The prominence of a philosopher seems to depend largely on his commentators. Another philosopher than Aristotle might have occupied the centre of the stage to-day if he had not been exploited in the 12th century by Avarrhooes, "*che il gran comento feo.*"* Similarly, though Confucius left one book only, Mencius, coming 400 years later, himself a "top-side" philosopher, made the word Confucius familiar to the world. Again Laotsze, precursor and peer of Confucius, whose ethics were identical with those of Epicurus, disappeared into the west, leaving with an officer on the frontier a single book of his reflections. It required a Chwang Tsze to inaugurate the wide circulation of the Tao literature.

Is it possible that some disciple of Laotsze turned up in Samos 300 years later, and instructed the young Epicurus in his system of philosophy, though he claims to be self-taught?† If so, in his study of the material universe, Epicurus substituted the atom of Democritus for the Taou of Laotsze, who observes that "all things originate from Taou, conform to Taou and to Taou they at last return," while Epicurus says, "The world came, continues and will disappear in accordance with fixed laws of atoms, which alone (with space) are eternal."

On the ethical side he and Epicurus (as well as

* *Inferno*, Canto IV, 144.

† This claim is hardly to be credited. In the first place the atomic theory had been already elaborated by Democritus, the distinguished pupil of Leucippus, with whom, in cruder form, it originated.

Democritus, who preceded Epicurus, and from whom Epicurus must have gleaned) seem to have been at one, for Laotsze's theory of life consists "in modesty, self-emptiness, in being void of desires, quiet and free from extortion, in being self-empty, retiring and self-controlling in actual life."

Shorey intimates, in the ethics and psychology of Epicurus, an indebtedness to Plato not generally recognized. However this may be, the fact remains that one who absorbs the fundamental tenets of Epicurus, without diminishing his zest for action, prepares himself for a life of comparative freedom from fret and worry, and for endurance of physical and mental discomforts with equanimity. To this extent the world is indebted to Epicurus.

Epicurus as a child was delicate. At seven years of age he spoke of himself as the feeblest of boys (Bentham's Works, vol. 10, p. 31). Later he apparently developed photophobia and his skin was so tender that he could not bear the ordinary dress (Suidas). This would indicate that Epicurus was something of a deviate, perhaps of valetudinarian tendencies. If so, the mastery over himself is the more remarkable.

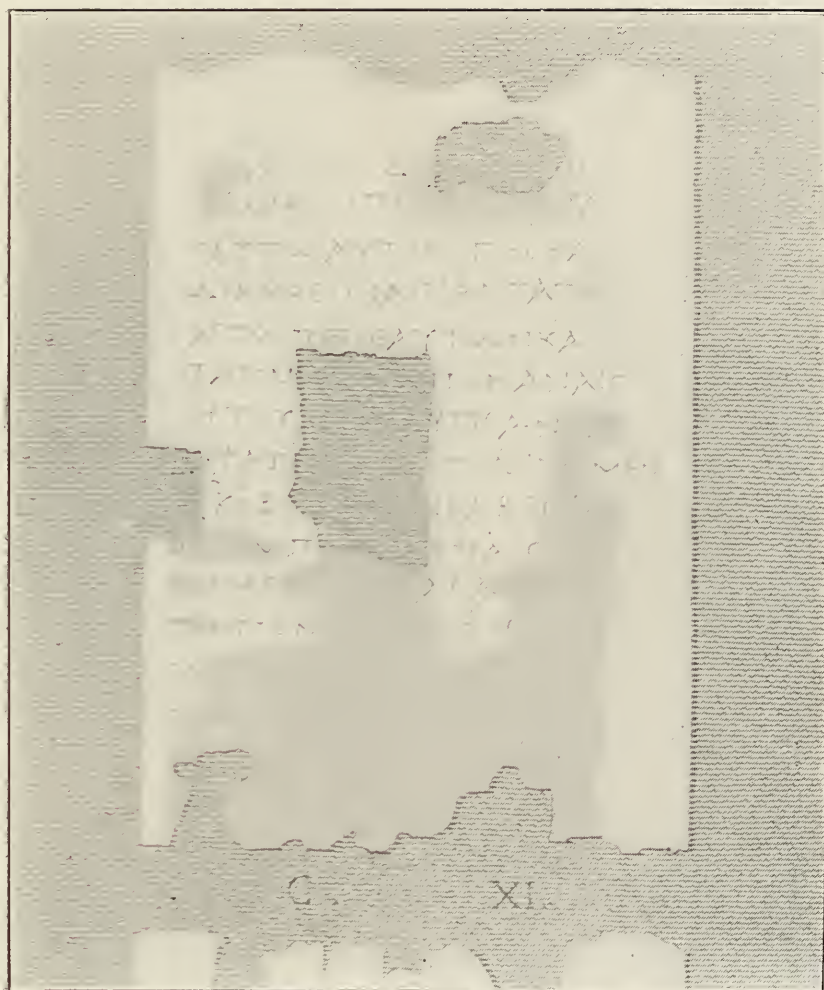
Epicurus was popular; many statues were erected in his honor. The best bust gives him a benign aspect, singularly at variance with the "Epicurean levity" of George Eliot (in "Romola"), and is declared authentic because the name is inscribed on a rounded base (Bernouilli, Griechische Ikonographie). His pictures were found in the bedrooms of his disciples and even on their plate.*

* Cicero. De Finibus, vol. 5. Pliny, Nat. Hist. XXV—5.

Born in Samos, 341 B. C., he died at Athens 370 B. C. He left to his followers the garden he founded, and in which he taught. If the Epicurean school were known by any other name it would doubtless be that of the garden as contrasted with that of the porch. A delightful introduction to this garden, its habitues, their conversations and customs, is found in Wright's "A few Days in Athens." An equally delightful sketch is "The Epicurean" of Th. Moore (1827), which portrays the degeneration of the cult in the time of Valerian.

The biographers of Epicurus have had to draw mainly from Cicero, Lucretius, Diogenes Laertius, Plutarch, Seneca, Stobaeus and Athenaeus. Diogenes Laertius furnishes three letters which are probably authentic. Fragments* of the *περὶ φύσεως* of Epicurus and of his letters were found in Herculaneum upon papyri rolled up and hardened into a solid mass, along with remains of the writings of Philodemus, a disciple of Epicurus and contemporary of Cicero. These papyri were unearthed in what was perhaps the study of Philodemus, who may have been employed as secretary and instructor by Piso, the Consul (58 B. C.), in whose villa Prof. Comparetti thinks the find occurred (Courtney). Some of the papyri have been unwound by attaching goldbeaters' skin to their edges and slowly unrolling them by threads leading to a revolving cylinder, the roll being carefully freed by a needle, at the rate of an inch in four or five hours. Many rolls were first destroyed by being cut open in the hope merely of discovering in what language they

* Facsimilies of these papyri may be found in *Herculanensia volumina*, Neapoli, 1850.



FRAGMENT FROM *περὶ φύσεως*

were written. The handwriting is of the rounded character designated the "Papyri Uncials," and is doubtless that of a copyist. (See Fig. II.)*

That Epicurus was not everywhere popular is shown by the fact that when certain Epicureans settled in Lyttos (Crete) they were banished by a decree which provided that if they returned they were to be placed naked in the stocks, smeared with milk and honey, and exposed for twenty days to wasps and gad-flies. If they survived this test they were to be dressed as women and hurled to death from the top of a rock (Suidas). Again, an Epicurean is said to have been treated in a temple of Aesculapius by being obliged to burn the works of Epicurus and mix the ashes with wax for a poultice (Wallace).

The main objections to the teachings of Epicurus were the effeminency of his philosophy, and his abstinence from public duty.

Epicurus appealed to the man, not to the citizen. His view of life, and its chief end, represents a reaction against the speculation of the preceding schools (Socratic, Academic, Peripatetic), and is an appeal to

* I have drawn largely upon Digby (Tela's Philosophical Library, London, 1822 (?), William Wallace (Epicureanism, London, 1880), and Hicks (in Whibley's Companion to Greek Studies, Cambridge, 1905).

Further may be consulted :

Gigycki, Paul von. *Einleitende Bemerkungen zu einer Untersuchung über den Wert der Naturphilosophie des Epikuren*, Berlin, 1884. Gaertner.

Courtney, W. L. *Epicurus*. In Abbott's *Hellenica*. London, 1880.

Shorey. *Plato, Lucretius and Epicurus*. Cambridge, 1901.

Guyau. *La Morale d'Epicure*, etc. Paris. Bailliere. 1878.

Lyon, G. *La logique inductive dans l'école epicurienne*. Paris. 1902.

Wright, Francis. *A Few Days in Athens*, being the translation of a Greek manuscript discovered in Herculaneum. Boston, Mendum, 1830.

Zeller. *Stoics, Epicureans and Sceptics*. London, Longmans, Green & Co., 1892.

commonsense. His plan of life is of interest to the neurologist, as offering in its simplest and most classical form the psychotherapeutics of that day. Applied to the mental treatment of the ideo-obsessive, many of his maxims are admirable. The acquisition of the tranquil mind, the chief aim of this philosopher, recalls the attitude of a popular sect of the present day, though the methods by which this object is attained are fundamentally different.*

Philosophy is generally supposed to make for the reasonable life; the expression to "live philosophically" conveys the idea of living reasonably and with unruffled mind. But the philosophy of Epicurus is the epitome of serenity. If we can imagine the suave and dignified Epicurus occupying the tub of Diogenes, we can not imagine him brusquely telling Alexander to get out of his light. Again, while he was clever in argument, I gather that he was less insistent and less intolerant of opposition as well as less theatrical than his chief rivals, the Stoics.

It must be confessed that the doctrines of Epi-

* The physical rather than the ethical side of the philosophy of Epicurus was incorporated into a school of medicine by Asclepiades (born 124 B. C.), one of the Greek physicians in Rome. This school was the "methodic." Asclepiades thought all disease "depended on alterations in the size, number, arrangement or movement of the 'atoms' of which, according to the doctrine of Epicurus, the body consisted. These atoms were united in the passages (*πороι*) through which the juices of the body were conveyed . . . Treatment of diseases was directed . . . to correcting the morbid common condition or 'community,' relaxing the body if it was constricted, causing contraction if it was too lax, and in the mixed state' acting according to the predominant condition. This simple rule of treatment was the system or 'method' from which the school took its name." (Encyclop. Brit.) This school on its practical side is said to have followed the stoic rule of life, the austere, rather than the tranquil, philosophy.

... ὥς ἐν πλάνῃ εἶναι δο-
κεῖ, εἰ ἀν' διανοεῖσθαι
ὑποδησεται. δηπου τινα
ἀλλ' ἢ οἷον πονῶ ὄλως, κα-
θ' αὐτῶς αὐτο λεγέσθαι,
διανοεῖσθαι πάντα γ' ἐν
αὐτῷ περὶ ἑαυτον, κα-
τα παν το ατοπον, αναισ-
δητου δε του πλανην
(τ' α') την αν επιδον. ὁμεν

... nam in errore esse vi-
detur, si censuerit cognoscere se
posse aliqua sine acri omnino la-
tere, quoadmodum ab eo dici,
cognoscere se omnia, quantum in
ipso est, de iis ipsis rebus, prorsus
absurdum, et stolidi hominis erro-
rem esse vidi. Is quidem...

curus present a passive sort of virtue, into which one could have wished infused a little virility and a little patriotism. Upon his counsel against entering into public life and into matrimony Epictetus quaintly observes :

“And does he, who knows all this, dare to forbid us to bring up children? Not even a sheep, or a wolf, deserts its offspring; and shall man? What would you have,—that we should be as silly as sheep? Yet even these do not desert their offspring. Or as savage as wolves? Neither do these desert them. Pray, who would mind *you*, if he saw his child fallen upon the ground and crying? For my part, I am of opinion that your father and mother, even if they could have foreseen that you would have been the author of such doctrines, would not have thrown you away.” *

It must be acknowledged that such considerations sufficed to justify the abandonment by Horace of Epicureanism in favor of the Stoic philosophy.

In deploring this lack of interest in the country, as well as in considering the materialistic trend of Epicurus's teachings, we must bear in mind the fact that his time was one in which “political and social changes, the loss of Greek freedom, the opening of the East to Greek culture under Alexander's successors, the decay of patriotism—tended to discourage speculative thought. Just then the search for truth had less attention than the search for happiness. Materialism, in one or other of its phases, was the prevailing tendency.” (Hicks.)

“It was a time of weariness and exhaustion—a weariness of metaphysical abstraction, a weariness of

* Higginson's Epictetus, Chapter XXIII.

sophistical ingenuity, a weariness of political activity. . . . In the misery and repression of the time, men did not want far reaching theory, or elaborate system, but something definite, precise, concrete: some ideal of existence which would suit those who had given up politics, and had become isolated and self-centered, a theory of individual life, not a compendium of cosmical knowledge." (Courtney.)

Epicurus apparently believed in the gods, but regarded them as beings apart, taking no interest in human affairs, having no passions and neither to be placated nor to be feared.

Maxim I. (1)* "That being who is happy and immortal is noways solicitous or uneasy on any account, neither does he torment nor tease others: anger is unworthy of his greatness, and beneficence can not form the character of his majesty, for all these things are the property of weakness."

Diogenes Laertius seems to have been led from this, says Digby, to extol his piety and worship of the gods, but Cicero thinks "Epicurus spoke equivocally, leaving it doubtful whether he meant there is something happy and immortal, or whether he meant that they who enjoy a perfect felicity have the advantage of being immortal."

The vague language of this maxim is certainly in marked contrast to the usual simple, straightforward and unequivocal terms of Epicurus. At any rate, among the fears, the elimination of which Epicurus urges, the first is the fear of the gods, thus:—

* 1. The translation of the maxims is Digby's (*loc. cit.*). They were preserved by Diogenes Laertius; Hicks refers to them as the *Fundamental Tenets*.

"If what delights men in lascivious pleasures could at the same time root out of their minds the terror they conceive of those things that are above them . . . I should be in the wrong to find fault with them, since they would enjoy the most consummate and perfect pleasure." (Maxim VIII.)

On the question of the immortality of the soul he is decided, thus :

"Death is nothing in reference to us. What has undergone a dissolution has no sense, and this privation of sense makes us just nothing at all." (Maxim II.)

Epicurus did not draw the conclusion that we were to eat, drink and be merry, but that we should comport ourselves as if we were to live indefinitely. To overcome the fear of death and the miraculous in the heavens, and to cure the mind of the impressions of fables he urges the study of Nature. (Maxim IX.)

Epicurus made logic preliminary only to the study of Nature, and the study of Nature in turn preparatory to ethics, herein offering a therapeutic suggestion often neglected to-day, a suggestion in marked distinction from the teaching of some of the older philosophers who despised the study of Nature. Things, not words, appealed to Epicurus. What he could see and feel he was satisfied was there and worthy of investigation. The simplicity of his trust in the sensations was almost childlike; he believed the planets as large as they appeared, and had his fling at the astronomers along with other scientists.

If our philosopher had stopped here he would have left himself less open to controversion than he did. But instead of resting upon the dictum that the senses alone are reliable, and defying logic, he endeav-

ored to fortify his position as follows:—"It is true that we have the same sensation in hallucination that we do in regard to real things, but it is not our sensation that is deceiving us, but our *interpretation of the sensation*." Such arguments rather weaken than strengthen his ground. Courtney cites as a further illustration of his faulty logic the fact that he regards the laws of Nature and of the atoms as immutable, yet believes we can reach our goal of happiness by the exercise of our free will. This inconsistency Epicurus explains by a deviation of the atoms from their perpendicular movements. By such arguments and suppositions he appeals to neither commonsense nor to reason. At the same time it is held that recent fragments throw clearer light upon his deductions. However this may be, it is the principles of life of Epicurus rather than his views of the cosmos that have left their impress, and which are as applicable to-day as they were 300 years before Christ.

The next step toward the cultivation of the tranquil mind was the avoidance of responsibilities, particularly of participation in public life, thus:—

"The Wise-man shall not marry, nor trouble himself with thoughts of receiving, as it were, a fresh being in his children; not but there are accidents in life that may oblige him to this engagement, and make him wish for posterity." (Maxim XII, to Wise-man.)

In Charleton's * translation we find the following modification (Chapter XI, sec. 4) of this somewhat

* *Morals of Epicurus*, Collected partly out of his owne Greek Text in Diogenes Laertius, and partly out of the Rhapsodies of Marcus Antoninus, Plutarch, Cicero and Seneca, faithfully Englished by W. Charleton, First Edition, London, 1656.

startling advice: . . . “there may be some such Circumstance, as may require a man, though much against his will, to marry and generate Children; as, for instance, in case he live in a Country but thinly peopled, and where he is to be servicable to the Common-wealth by increasing the members of it. Some, we know, pretend the propagation of their species, to which Nature seems to oblige all; but, certainly, there is no fear that mankind should fail, there being in all times and places enough that give themselves to Marriage and Procreation: so that some few Wise men may well be permitted to abstain, and leave the business of Propagation to be performed by others.”

It is fair to add that in case the Wise-man has so acquired a family he does not advise evading its support, thus:—“The Wise-man must have a due care of his family and foresee what may happen, without avarice or too eager a pursuit after riches.” (Maxim XXI, to Wise-man.) Again, in Charleton (Chapter XI, sec. 5) we find the following: . . . “to take such care for your children as is prescribed to you partly by Nature, which by strong instinct obligeth us to love and cherish them as soon as they are born (and so much even Wolves, Tygers, and all other wild Beasts alwaies do), and partly by Prudence, which admonisheth us to so educate and instruct them in the rudiments of Morality, as that they may be obedient to the Laws of the Country, and desire nothing so much as to be made Wise themselves.” And in Section VI:—“Nor are we to take this care onely for our own Children; but also for those of our Friends, and especially if they be our Pupils.”

In view of these indications of Epicurus's kindly

nature, there seems to be a touch of unfairness in the witty comment of Epictetus.

He further deplores excessive fortune, thus :—

“The Wise-man can never have but a limited fortune. The greatness of his mind and the excellence of his counsels are sufficient to distinguish him . . .”
(Maxim XII).

On the other hand, he deplores the vanity of voluntary squalor, and expressly states that the Wise-man may not live as the Cynics.

Concerning public affairs and the taking of office he is explicit, thus :—

“He shall not take upon himself the administration of the commonwealth.” (Maxim XIV, to Wise-man).

Here we are disappointed in Epicurus and we search in vain for some precept like that of Confucius (Moral 79). “When thy country’s safety is concerned, stand not to consult but expose thyself.”

Epicurus does not, however, counsel seclusion, but holds that tranquillity of life may be maintained though one mingles in the world provided he keeps within the bounds of temperance and limits his desires to what is easily obtained.

Epicurus counsels choosing one’s friends for their utility, thus: “Friendship ought to be contracted for the utility we expect therefrom, as we cultivate the earth that we may reap the benefit of its fertility. This noble habit is fomented and upheld by the natural good offices of the parties, and the satisfaction they take in each other.” (Maxim XXIX, to Wise-man).

In view of this maxim it is interesting to note that a marked approach to heroic sentiment is found in

Maxim XLI to the Wise-man, thus:—"If occasion require it he shall suffer death for his friend."

The most ardent sentimentalist could ask no more than this. In point of fact, the friendships of Epicurus were proverbial. Guyan says: "C'était entre tous ces cours, au dire des anciens, une entente, une harmonie parfaite: *conspiratio amoris*, écrit Cicéron. La famille même d'Epicure donnait l'exemple: c'est chose merveilleuse, dit Plutarch, comme les frères étaient affectionnés envers lui. Son disciple Métrodore était devenu un autre lui-même; ils ne se quittaient jamais; nous avons au Louvre un marbre qui représente sur une de ses faces Epicure, sur l'autre son inseparable ami." Cicero refers to the relations of his circle as "*conspiratio amoris*," and Guyan says that during the siege of Athens by Demetrius, Epicurus fed all the disciples who remained with him.

He regards the avoidance of excess as the logical and necessary step toward the tranquil life, though he states that such words as goodness and probity are nothing in themselves, thus:—

"The Wise-man ought to avoid being familiar with any woman whose conversation is prohibited by the laws." (Maxim VII, to Wise-man.)

"The Wise-man must never yield to the charms of love; it never came from heaven, its pleasures have nothing valuable in them; and, if one is unfortunate enough to be overcome by it, he ought to count it a happiness if he comes off without mischief." (Maxim IX, to Wise-man.)

"The Wise-man ought never to drink to excess; neither must he spend the nights revelling and feasting."

Epicurus recognized the doubting folly, thus:—

“He shall be steady in his opinion and not wavering and doubtful in every thing.” (Maxim XXXIX, to Wise-man.)

The following maxims may well be pondered by the folly doubter, the victim of moods and phobias, as an aid to cultivating tranquillity of mind and healthy emotional poise.

“Health in the opinion of some is a precious thing; others rank it among the indifferent.”

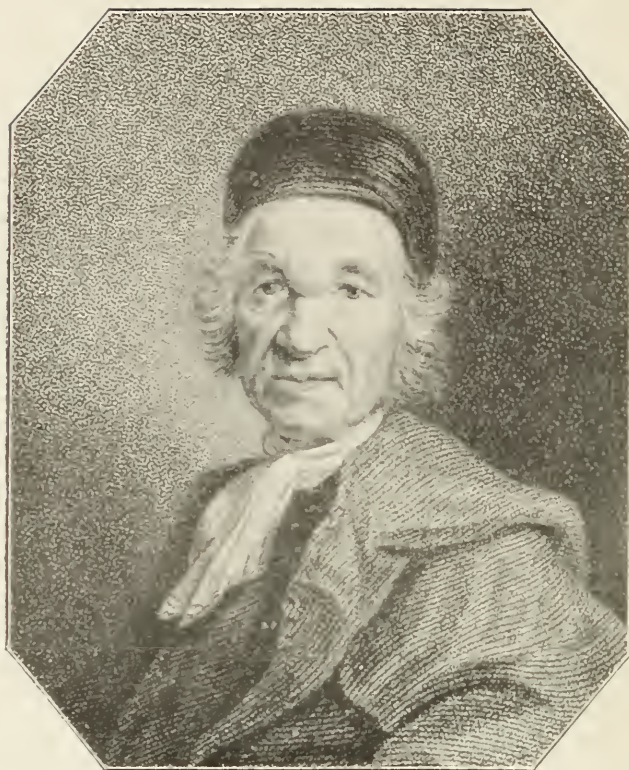
“The Wise-man takes care to preserve the unequivocal blessing of an undisturbed and quiet mind even amidst the groans and complaints that excess of pain extorts from him.” (Maxim V, to Wise-man.)

“If the body be attacked with a violent pain the evil soon has an end; if, on the contrary, the pain be languishing and of long duration it is sensible beyond all doubt of some pleasure therefrom. Thus, most chronic distempers have intervals that afford us more satisfaction and ease than the distempers we labor under cause pain.” (Maxim IV.)

“It is of little use not to be afraid of men, if we still doubt how things are transacted in the heavens—upon earth—and in the vast immensity of the great whole. What rest and quiet can he have who is not in himself against all that can terrify or discompose his interior.” (Maxim X.)

Another maxim states that one can be happy though blind.

He established a principle which may well be borne in mind by the wakeful psychoneurotic of today, namely, that the best preparation for a tranquil night is a tranquil day. He realized that one who is



ST. EVREMOND (1610-1703)

harrassed during the day by worries, doubts and fears, can not suddenly acquire at night the placid frame of mind conducive to restful sleep, thus:—"He shall enjoy the same tranquillity in his sleep as when awake." (Maxim XL, to Wise-man.)

Epicurus did not, like Confucius and other philosophers, place a limit on the age of learning new methods, but states in his letter to Menecæus: "Youth is no obstacle to the study of philosophy; we should not defer acquiring its knowledge; neither ought we to be ashamed to concentrate our later years to the labor of speculation. Man has no time limit for learning and ought never to want strength to cure his mind of all the evils that afflict it . . . Youth, then, must get the support of the strength of their mind; and the aged must retrieve as much of it as they can and educate themselves to philosophy."

The stability of Epicureanism during the time of the Roman Empire is shown by the fact that when Marcus Aurelius decided to endow a philosophical professoriate he made the Epicurean one of the four standard schools, the others being the Academic, the Peripatetic, and the Stoic. It is no small thing to have the endorsement of one who himself touched so lofty a note as to counsel, "Let another pray 'Save my child,' but do thou pray, 'Let me not fear to lose him.'" The philosophical thought of that time is admirably presented by Walter Pater in "Marius the Epicurean."

Among those credited, rightly or wrongly, with being Epicureans, are found Horace, Lucretius, Pliny the younger, Lucian, Diogenes Laertius, Gassendi (1592-1655), St. Evremond, Rochefoucault (1613-1680), Molière, Fontanelle (1657-1757), Voltaire, Rousseau

and Jeremy Bentham, one who has been styled the Epicurus of England.

Atticus (109-32 B. C.), a man of wealth and exquisite refinement, but frugal in his manner of living, was devoted to study and the pleasures of friendship, and took no part in public affairs, in which, however, he was not without influence. None of his work has been preserved.

The philosophy of Horace is elusive. According to one authority, in earlier life he professed himself a follower of Epicurus, but later modified the passive ethics of this sage and infused a more heroic tone into his theory of life, took an active interest in national affairs and declared himself, as regards philosophy, an eclectic. Another writer credits him with wavering between the cult of Epicurus and that of Zeno, the Stoic. In his satires he uses the expression, "Epicuri de grege porcini," or, as William Mason has it, "The fattest hog in Epicurus's sty." For a reliable estimate of the views of Horace, I shall rely on the Charakan authority (Dana).

I have already referred to Lucretius, whose poem ("De Rerum Natura") has placed the doctrine of Epicurus before the world in permanent and classical form. Next comes Diogenes Laertius, of whose life practically nothing is known though he probably lived during the reign of Septimius Severus (193-211). He devotes to Epicurus one entire book* of his notable work on the philosophers.

The revival of Epicureanism after the Renaissance found place in France in the seventeenth century, four

* The best edition is that of Hubner, Leipzig, 2 vol. 8 vo. 1828-1831.



PIERRE GASSENDI (1592-1655)

centuries later than that of Aristotelian philosophy in Italy. The cult was initiated by Gassendi, whom Gibbon calls "le meilleur philosophe des litterateurs, et le meilleur litterateur des philosophes." Gassendi,* "philosophe, savant, moral, ingenieux, fameux deffenseur d'Epicure," was the bitter opponent of Descartes and of the Aristotelian philosophy.

St. Evremont (1613-1703), who wrote an elaborate vindication of Epicurus, to be found in Digby,† was a friend of Gassendi, and was strongly imbued with his doctrines.

Molière (1622-1673), who was quoted as one who talked nothing but philosophy, was a pupil of Gassendi, by whom he was led to appreciate the atomic philosophy of Epicurus as taught by Lucretius. Molière translated the "De Rerum Natura" of Lucretius. Molière disregarded the advice of Epicurus regarding marriage, and it is not certain that he followed his admonitions with regard to illegal love. He was apparently fond of rich dress, superior furniture and old books, and is said to have kept open house with "une table garnie." Though his life was hardly compatible with the tranquil mind, his private character was remarkable for gentleness, probity and delicacy.

Fontanelle, secretary of the Academy de Sciences, died in truly Epicurean tranquillity at the age of one hundred, saying that he did not suffer, but found a sort of difficulty in living any longer.

Among those credited without basis with being Epicureans are Rousseau, Voltaire and Lucian. Lu-

* Gassendi translated Diogenes Laertius, wrote de Vito Moribus et Doctrina Epicuri libri octo, and the Syntagma philosophia Epicuri.

† Philosophical Library. Edited by Tela. Translation by Digby.

cian, a satirist of the second century A. D., scoffs at all philosophers, whom he said were to be recognized by their sour-faced looks, their paleness of complexion and their length of beard. With regard to Rousseau and Voltaire, of all the restless and discontented victims of environmental dislocation, the former was *facile princeps*, the later *haud difficulter secundus*.

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